BUTANE-PROPANE News

25¢

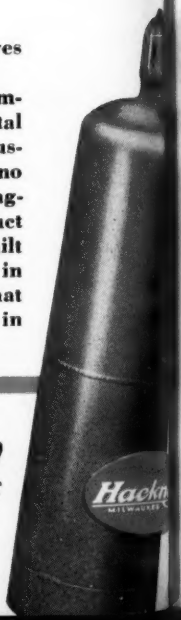
AUGUST 1943

Hackney Cylinders Help the Railroads in Wartime, Too

***THE** railroads are another war industry which is being served by LP-Gas. It is used to maintain constant temperature in insulated freight cars for the transportation of perishable food products in cold weather. In railroad shops it is used for maintenance and repair of equipment. It is also employed for cutting of steel and in the heat treatment of various metals. On some railroad dining cars, propane-butane gas is used as a fuel for cooking. It makes an economical and efficient fuel for the operation of air conditioning systems on passenger railroad cars. Hackney Cylinders, by providing a dependable and efficient means of storing and transporting propane-butane, are playing an important part in this and many other industries served by LP-Gas.*

Long life is a built-in characteristic of Hackney Cylinders. Pressed Steel Tank Company's process of cold drawing provides uniform side wall thickness and also acts as a check on the quality of the steel itself. In designing and constructing Hackney Cylinders, the seam area is reduced to a minimum. There is only a single, circumferential body weld. Welding is X-ray controlled. After complete fabrication, Hackney Cylinders are heat-treated, which further improves their physical properties.

Today, Pressed Steel Tank Company Cylinders are making vital contributions to many war industries. Consequently, there is no halt to the skill, knowledge, imagination and research in product improvement which have built such a widespread preference in industry. You are assured that these qualities are continuing in Hackney Cylinders.



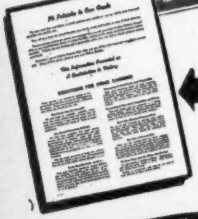
Pressed Steel Tank Company

GENERAL OFFICES AND FACTORY · 1487 SOUTH 66th STREET

Milwaukee, Wisconsin

CONTAINERS FOR GASES, LIQUIDS AND SOLIDS

Tell Your Customers About
"VICTORY CANNING"



● Take advantage of these Roper "Victory Canning" materials to give housewives reliable canning information. Six free newspaper mats—four three-column and two two-column sizes. Be sure to send for them today.

***Free* CANNING GUIDE**

Send for **FREE** sample of our "Canning Guide." It will help your customers with their home canning. Only $5 per thousand.

Sell WAR BONDS Now
The ROPER LP GAS RANGE Later

GEO. D. ROPER CORPORATION

GENERAL SALES OFFICE AND PLANT: ROCKFORD, ILLINOIS

ROPER GAS RANGES FOR ALL GASES INCLUDING **(LP)** LIQUEFIED PETROLEUM GAS

BUTANE-PROPANE *News*

Reg. U. S. Pat. Off.

Contents for August 1943

Letters 4

Guest Editorial: LP-Gas on the Home Front . *By H. K. Strickler* 8

Mainly Beyond the Mains 11

Dehydrating Foods with LP-Gas . . . *By L. L. Peters* 14

1942 Sales 585,440,000 Gals., With Domestic Uses Up 36% . 19

Butane Business Picks Up When Natural Gas Comes to Town *By C. Lowell Richards* 20

The Bottled Gas Manual—Chapter 20, Part 2. Competitive Fuels—Electricity . . . . . *By C. C. Turner* 23

When the War Ends How Will Appliances Be Sold? *By Arthur P. Hirose* 40

Research 51

Care in Filling Out PD-1A Applications Will Aid Dealers and WPB 55

Classified 70

Advertisers 72

Publication Office

Los Angeles (14)—1709 West Eighth Street. Phone: DRexel 4337.

Branch Offices

Dallas, Texas—3645 Haynie Avenue. Phone: Justin 8-1764.
Chicago—1064 Peoples Gas Building. Phone: HARrison 6634.
Washington—Editorial Office, 850 Munsey Bldg. Phone: District 2118.
New York (17)—Advertising Office, A. M. Willcox & Associates, 420 Lexington Ave. Phone: LEXington 2-4816.

JAY JENKINS, President and General Manager.
CRAIG ESPY, Vice President. **ARTHUR ROHMAN**, Vice President.
JAMES E. JENKINS, Secretary-Treasurer.
LYNN C. DENNY, Managing Editor. **ELLIOTT TAYLOR**, Washington Editor.
H. W. WICKSTROM, Technical Editor. **H. A. WADSWORTH**, Research Editor.

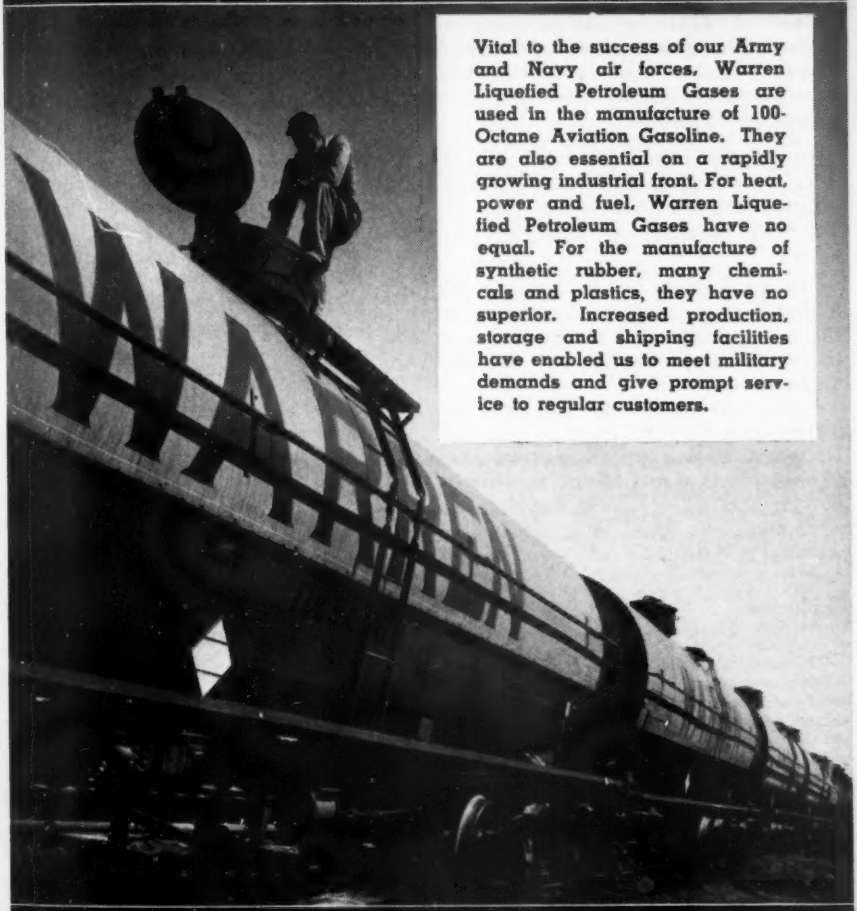
August, 1943. Volume 5, Number 8. BUTANE-PROPANE *News* is published monthly. Copyright 1943, by Western Business Papers, Inc., at 1709 West Eighth Street, Los Angeles, California.

Subscription price: United States and U. S. Possessions, Mexico, Cuba, South and Central American Countries (in advance), 25c per copy, one year $1.50, three years for $2.50. All other countries $3.00 per year. Entered as second-class matter May 29, 1939, at the post office at Los Angeles, California, under the Act of March 3, 1879.

Member of Audit Bureau of Circulation; Associated Business Papers, Inc.

Publishers: G A S, The *Natural* Gas Magazine; HANDBOOK BUTANE-PROPANE GASES. WESTERN METALS.

WARREN
LIQUEFIED PETROLEUM GAS



Vital to the success of our Army and Navy air forces, Warren Liquefied Petroleum Gases are used in the manufacture of 100-Octane Aviation Gasoline. They are also essential on a rapidly growing industrial front. For heat, power and fuel, Warren Liquefied Petroleum Gases have no equal. For the manufacture of synthetic rubber, many chemicals and plastics, they have no superior. Increased production, storage and shipping facilities have enabled us to meet military demands and give prompt service to regular customers.

WARREN PETROLEUM CORPORATION

Tulsa, Oklahoma

LETTERS

Gentlemen:

There are a lot of things about the handling of butane pumps with which we are not familiar and the problem that concerns us most is the suction pressure. As we understand the butane-propane situation there are three conditions to be met:

1. The handling of straight butane.

2. The handling of butane to which propane has been added.

3. The handling of straight propane.

What we would like to know is the high and low suction pressure for the three liquids specified above, and how these suction pressures vary in summer and winter.

I do not know whether you have the information that we want or not, but I know that you are the outstanding publication in the field and that probably if you do not have the data at your office you could tell us to whom we might write.

J.B.T.

Michigan

The only material difference in handling butane or propane or their mixtures is the working pressure of the pump. A pump designed to handle propane will handle butane or the mixtures. The vapor pressure varies with the temperature and the safe working pressure of propane tanks is 250 lb. per sq. in. The maximum suction pressure to be anticipated will not be over this amount, which is for propane at 130° F.

Pumping LP-Gas is similar to pumping boiler feed water, inasmuch as a reduction in the pressure caused by the pull from the suction of the pump causes some of the liquid to vaporize.

Sufficient suction head should be allowed to provide flow to the pump suction with a positive pressure at the suction inlet. This prevents vaporization and consequent wear in the pump parts, due to rotation only partly filled with liquid. The HANDBOOK, BUTANE-PROPANE GASES, published by us, contains further information upon the subject of "pumping problems".—Ed.

•

Gentlemen:

Our supplier has raised the price of propane to us one-half cent. Can we raise our retail price under OPA regulations? If so, what is method of determining our new price?

I want to express my appreciation for the help your magazine has been in explaining new regulations in ways easy to understand.

K.C.B.

Illinois

Gentlemen:

Will you kindly advise us if there is a ceiling price on propane gas?

E.H.F.

Maryland

Yes, there is a ceiling price on butane-propane gas.

According to our information, the ceiling price dates back to Oct. 2, 1941, for certain districts and for the rest of the country to a period 60 days prior to October 15, 1941.

There has been an authorization for a change in price of gas at the wells, but not for retailers or consumers,—therefore, the price you were charging in the fall of 1941 is the price that you are legally permitted to charge now.—Ed.

•

Gentlemen:

Please advise what manufacturers are still making butane gas stoves. We have a customer who had a complete loss by fire and we are wondering if we can get a replacement of his

gas stove. We will appreciate any information that you have.

C.H.R.

Florida

There are about 200 manufacturers whose location and volume of business permit them to still manufacture ranges for the liquefied petroleum gas industry. Models so manufactured at this time are designated as "Victory" models.

Many manufacturers who are not allowed to make stoves still have some stock on hand, and in any emergency such as has occurred to your customer, it would be possible to obtain a stove by applying for special permit from the War Production Board, Washington, D. C., by filling out the industry form No. PD-397.

Therefore, it might be possible to obtain the same make of stove that he lost in the fire or any other specific stove that he wished to install. We suggest that you write to the manufacturer of the stove that he prefers and determine whether or not you can obtain one for immediate delivery. Other dealers in your state are also permitted to sell you stoves from their stock on special authority, so we are quite sure you will have no difficulty in obtaining either the appliance or permission for your customer.—Ed.

•

Gentlemen:

If you have in mind any of your good customers who are in the plumbing or appliance business who would be interested in getting a territory on an approved Victory model gas range for bottled or natural gas I will thank you to have them write me.

R.D.C.

Texas

In regard to your request for the name of dealers who might be interested in acquiring territory for an approved Victory model gas range for bottled or natural gas. We believe that your best purposes would be served by taking classified or display advertising space in BUTANE-PROPANE *News*. This should serve several good purposes for you. It would get the name of your products before the entire industry; it would reach a great majority of liquefied petroleum gas dealers in the shortest possible time, and at the lowest cost to you, and it would help to fix your name in their minds.

There have been a good many changes in dealerships since the war started, and to try to pick out one or two in the west that might best serve your purposes, without knowing exactly what your needs are, would be difficult to do. It would practically mean sending you our subscription list. Through either form of advertising as suggested above, you could reach all of them in the next issue of BUTANE-PROPANE *News*.—Ed.

•

Gentlemen:

We have noticed at various times advertisements and articles in your magazine relative to operating commercial vehicles with propane gas. We have a fleet of trucks now operated in the conventional manner—with gasoline—and we are curious to know whether these can be converted to use propane. Will you please advise us with whom to make contact for the information we need.

We would like to take this opportunity to compliment you on your very commendable publication.

W.F.W.

Pennsylvania

You ask regarding the suitability of converting gasoline truck engines to use with propane gas. No doubt you have seen many articles in BUTANE-PROPANE *News* upon this subject and we have yet to hear of an instance when conversions have been made by competent people that they were not successful. There is nearly always a saving in cost of operation and there are very great economies in the amount of oil consumed and in upkeep of motors when butane or propane or mixtures of the two are used.

We are going to ask the Ensign Carburetor Co., of Huntington Park, Calif., and the American Liquid Gas Corp., Los Angeles, to mail you some of their literature and to write you upon this subject so that you can have more information than it would be possible to give in a letter.

We do not think conversion equipment is available at the present time unless you are operating a project of great importance for the Government.—Ed.

•

• **BUTANE-PROPANE *News* welcomes letters from our readers, but it must be understood that this magazine does not necessarily concur in opinions expressed.—Editor.**

WHAT CAN I DO NOW TO BETTER PREPARE FOR PEACE TIME CONDITIONS?

WHAT NEW DEVELOPMENTS IN EQUIPMENT CAN I LOOK FOR?

WHAT WILL BE THE SITUATION ON DELIVERIES AND AVAILABLE EQUIPMENT?

WHAT DOES THE FUTURE HOLD FOR MY BUSINESS?

WHERE IS MY BEST SOURCE OF EXPERIENCED MERCHANDISING AND ENGINEERING ADVICE?

A COMPLETE LINE OF LPG CONTROL EQUIPMENT

THINKING POST-WAR?

Today, all of us know that it's a wise policy to PLAN AHEAD, and you probably are THINKING POST-WAR just as we are. Right now, like many other manufacturers, we are 100% on war production. To meet production goals we have greatly increased our facilities and personnel. As a result, production schedules now are being maintained that even a few months ago would have been impossible.

When peace comes, all of our greatly expanded manufacturing facilities will be available for peace-time manufacturing along with an organization that is trained and skilled in precision volume production. Our specialized knowledge of control equipment has made Fisher a logical source of supply for the Allied Nations who have called on Fisher to solve and supply the equipment for many vital control problems. During this fight for freedom we are manufacturing the same automatic control equipment that we have always produced. As a result, Fisher will have no major problem in re-converting to peace-time manufacture . . . instead, actual production on LPG equipment can be started without delay.

All this added to the many years of recognized Fisher leadership in the industry means that Fisher Governor Company will be better prepared than ever before to meet your entire requirements for regulators, cylinder valves, underground equipment, self-service systems, bulk station equipment — in short, a complete line of LPG equipment.

FISHER

GOVERNOR COMPANY

• Fisher Building • MARSHALLTOWN, IOWA

LP-Gas on the Home Front

By H. K. STRICKLER

President, The Propane Corporation, Erie, Pennsylvania, and Vice President, Liquefied Petroleum Gas Association

TO many of us the most remarkable phase of our war effort has been the apparently unlimited facilities American industry has provided for production and transportation. Tremendous quantities of supplies and equipment of all kinds have moved to our armed forces (including a large proportion for our Allies) and yet the civilian supply of necessary commodities has not suffered too much. A tribute to industrial foresight and planning.

The position of the comparatively young LP-Gas industry in in this picture is even more remarkable because strangely enough its established customers—spread all over the country-side of rural America—have been adequately supplied without inconvenience, yet enough tank cars, trucks, storage tanks and fuel have been available to take care of large industrial demands, as well as housing facilities and army requirements in increasing proportions. The production of these special fuels and the tank car facilities to transport them have been adequate thus far to extend assistance in the special motor fuel and synthetic rubber programs.

On the home front LP-Gas organizations for installation and service are constantly available for use in cities and rural communities throughout most of America to take care of any emergency requirements in case of regional or even national disasters. Few outside the industry have realized this potentiality which would provide relief for most essential needs in case of damage to gas mains or gas meters, power stations, etc. or to provide cooking and heating needs in case of floods over wide areas or devastating hurricanes such as struck New England several years ago. We know in that particular instance and during the Ohio river flood in 1936, as well as more recent disasters, LP-Gas has come to the aid of the Red Cross and similar organizations to provide fuel where all other sources of heat and power have failed.

Within the short space of a few hours, service organizations will be able to flock in from all directions to most any point where emergency requires and provide complete facilities with their readily adaptable and exceedingly flexible varieties of LP-Gas service units. There is no other complete portable system of cooking, water heating, space heating and industrial standby which could be called upon for immediate application within reasonable distance of almost any area.

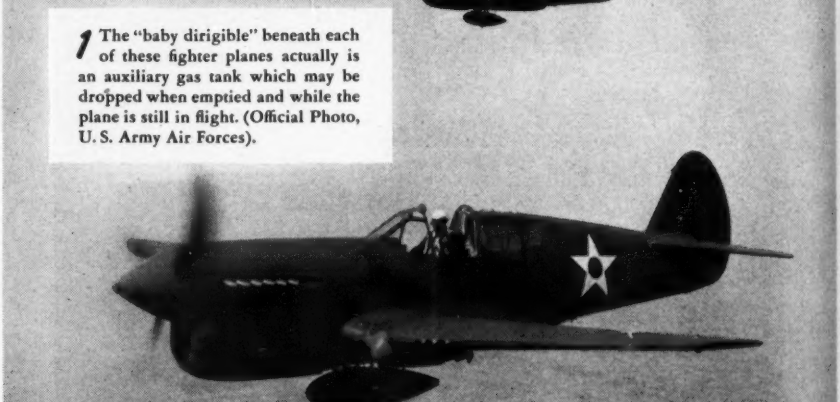
Let us hope that the necessity for such emergency service on the home front will not be required, but if it is, liquefied petroleum gas is ready at a moment's notice—everywhere!

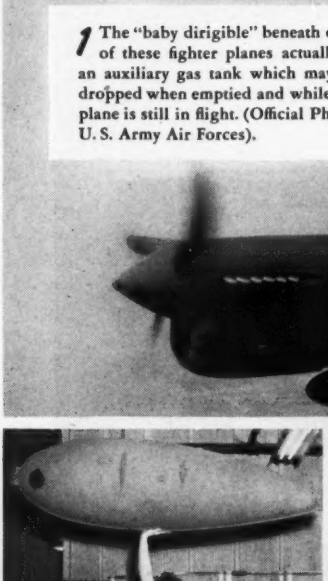
H. K. STRICKLER

Guest Editor for August

How Magic Chef Gas Ranges help fighter planes fly farther!

1 The "baby dirigible" beneath each of these fighter planes actually is an auxiliary gas tank which may be dropped when emptied and while the plane is still in flight. (Official Photo, U. S. Army Air Forces).





2 This photo gives you a better idea of the size of these auxiliary gas tanks. Airplane accessories must be strong but light. One tank is an easy load for this attractive American Stove Company production worker to support with one arm.

3 The material once used to make one All-American Magic Chef Gas Range now produces ten auxiliary gasoline tanks, and ten of our fighter planes will fly farther because some good housewife has made a sacrifice.

Magic Chef

THE RED WHEEL GAS RANGE WITH THE LIFETIME BURNER GUARANTEE

AMERICAN STOVE COMPANY, 4301 PERKINS AVENUE, CLEVELAND, OHIO

NEW YORK . . . CLEVELAND . . . ATLANTA . . . SEATTLE . . . CHICAGO . . . ST. LOUIS
LOS ANGELES . . . SAN FRANCISCO . . . PHILADELPHIA

Although there will be no new Magic Chef Gas Ranges for homes until after the war, the skill and new techniques required to make military equipment plus years of range-making experience will produce better Magic Chef Gas Ranges when victory comes.

MAINLY BEYOND THE MAINS

By ELLIOTT TAYLOR, Washington Editor

The Showdown

A little late this year the Bureau of Mines' survey of the "Marketed Production of Liquefied Petroleum Gases" for 1942 has now been released for publication. The final figures of 585,440,000 gals. of gas sold is somewhat lower than our own total of 603,484,000 gals., showing an error of minus 3% in the annual Butane-Propane News estimate, of January, 1943; but is approximately 5% higher than that of George G. Oberfell which was also carried in the same issue of this publication.

ELLIOTT TAYLOR

Best guesser was H. Emerson Thomas who went on record in a telegram dispatched to a friend in December, 1942, that in his opinion the 1942 sales would total 580,000,000 gals., which constituted an error of only about 1%, setting a record of some kind or other for the old science and practice of guesstimating.

Political Approach

We have never been unduly reluctant to criticize governmental delay, red tape, confusion and obstinacy whenever we have encountered it, but we consider it the better part of fairness to be equally observing of those instances, as far as our industry is concerned, where the actions of individuals, acting in what they considered their own and perhaps' their customers best interests, have contributed to the very confusion and delay that they unanimously inveigh against.

For no good reason that we can see, there has recently been a small epidemic of letters to senators, to congressmen and even addressed to the White House, from both dealers and potential users of LP-Gas, requesting what amounts to personal exemptions from order L-86. As everyone in the business knows, or should know by this time, exceptions to this order are only granted through the medium of approved exceptions filed on form PD-397. The total number of these requests that have been received, first by the WPB and now by the LP-Gas section of PAW, run into the

tens-of-thousands, of which it is inevitable that a majority had to be denied.

We have made inquiry, both in Washington and through the industry, and we have not yet encountered a single case in which the intervention of an elected representative has been instrumental in securing an approval that would otherwise have been denied, or in having reversed an adverse decision on an application that had already been processed.

There have been instances in which applications were denied because of insufficient or poorly presented information on the emergency need for an installation, and that denial later changed to an approval when the protesting letter came in, containing the facts, if properly presented, would have warranted an approval in the first place.

Exceptions to the limitation order on LP-Gas are not granted except on the merits of the individual case, regardless of what devious channels they may be routed through, so the prospective customer gains nothing. If the application were good enough to stand on its own legs, it would be cleared through the LP-Gas Division of PAW within 24 hours, if presented in the regular manner to PAW and on the proper form, whereas the political approach is always good for a delay of a week to 10 days.

Our advice, which we cheerfully offer whether it is solicited or not, is that any dealer who thinks that he has a prospective installation that will pass on a PD-397 should forthwith submit it in meticulous detail, and with all of the arguments germane to the request persuasively presented. If it is approved, fine and dandy, and if it isn't—better luck next time. And in closing the file on the case, don't needle the customer into the hope that four pages in long hand from him to his congressmen will change the situation.

Butane Shortage

While the question of an impending butane shortage on the Pacific Coast, particularly in some parts of central California, has received considerable publicity of late, we are of the opinion that the situation will not be as critical as some of the impulsive statements by local producers in that area would indicate.

It is undoubtedly true that the demand for butane for essential war production of high octane and synthetic rubber is growing and will continue to increase, and that this will have as its inevitable result a further restriction of the supplies available for civilian consumption. The trend of the newspaper stories and correspondence from farm groups would appear to indicate that this new expansion

of military demand is catching the PAW officials flat-footed, whereas this is decidedly not the case.

Without waiting for the appointment of its LP-Gas Industry Committee, PAW has already instituted and completed a survey of the entire supply and demand situation in California, as far as butane is concerned. And while the report has not been digested at this writing, we have every reason to believe that it will be carefully analyzed and necessary action taken to forestall a breakdown in the supply of butane for essential civilian uses before such a catastrophe occurs.

There is considerable additional absorption plant capacity available in that state right now for the increased production of butane, and it is our opinion that PAW regards this an ace-in-the-hole to step up the supply for miliary consumption without too seriously curtailing the delivery to existing users of this fuel.

Our prediction as to how this will be settled is that, in the first place, producers will find that they will not be permitted to arbitrarily cut off supplies to all their distributor or dealer outlets, regardless of any announcements made to that effect. It is fully appreciated in Washington that for one refiner to discontinue deliveries would only throw the burden of caring for his load, some of which at least would be bound to class as essential, onto the already strained facilities of another producer in the area. We also believe that as and if curtailment becomes necessary, it will be attempted first through having highway equipment, such as trucks and buses that have been converted over from gasoline, reconverted back to use that fuel during the emergency. Probaby farm equipment which can be reconverted to gasoline would be the next to feel the pressure, with a campaign to urge all consumers to limit their fuel consumption to barest requirements as a companion activity.

We assume that long before now, dealers and distributors of butane have seen the advisability of urging economy of consumption on their customers, and we feel that for the present nothing is to be gained by "butane shortage warnings" being featured in general newspaper press releases.

It is not beyond the range of possibility that producers facing the expiration of contracts based on what they consider unfavorable prices, frozen by OPA rulings, might be reluctant to renew those contracts. But to approach the problem of securing whatever readjustments may be necessary in this respect through alarming predictions not yet based on reality is to render a distinct disservice to the entire butane industry.

Dehydrating Foods With LP-Gas

By L. L. PETERS

Southeastern District Representative, American Stove Co., Atlanta, Georgia

Dehydration is not new in this country. We have been buying dehydrated foods from the store for a great many years and then, too, most of us can remember when our grandmothers dried apples and peaches spread on a sheet and placed on the roof of the house; however, there has been a great deal of experimental work done by departments of agriculture, both state and federal, and also the various schools and colleges throughout the country.

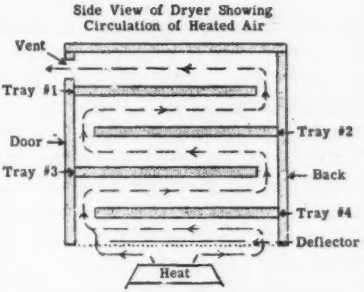
L. L. PETERS

I believe the purpose of this discussion is to stimulate some thinking and planning upon this subject by dealers in the LP-Gas industry.

There are several ways to preserve foods, and I think the leading accepted methods are dry storage, canning, frozen storage and dehydration. The tremendous interest in dehydration this year has been brought about by the desire of people to preserve surpluses of foods with the use of a minimum of critical materials, and certainly your customers—the households of rural and small-town America—are the people that logically should be most interested in this type of food preservation as they will have a surplus of vegetables from their gardens this year.

What is dehydration? The process of freeing a chemical compound of the water contained in it. It is removing the moisture content from fruits and vegetables to about 10%. You know moisture is the agent that stimulates growth of bacteria and mold that spoils foods and if moisture is properly removed and proper storage effected, foods will keep. The problem then is to provide a simple, understandable method of preparation, dehydration, and information that will insure proper storage of these foods after they have been processed.

Why dehydration? To help conserve surpluses of foods in America; to help make possible proper preservation of these foods. There is a real shortage of vegetables and fruits in this country, if we are to feed the world. If you don't think we are on short rations, consult your ration book and estimate how much food you would have if you only had these amounts of fruits and vegetables available. Compared with 1942, civilians will have less of many important foods. For instance, canned foods, approximately 57%; various fresh vegetables up to 25%; canned vegetables, 27%, etc., all of which does indicate that there will be less



Sketch of homemade dryer which is 14 in. wide by 20 in. deep and 19 in. high, excluding the legs. Materials needed are wooden packing case or waste lumber, mesh metal cloth, staples, nails, hinges, door fastener, and four tin cans for legs.

(From U. S. Department of Agriculture Victory Garden Leaflet No. 5)

of this type of food available for us this year. To provide adequate foods for ourselves, we must grow our own foods in our own back yard, or our garden plot in the Victory gardens, which all of us are attempting this year.

"*Food will win the war,*" says Secretary of Agriculture Claude R. Wickard, and I am sure by this time everyone agrees that we have undertaken a tremendous job in supplying necessary foods for our Allies and those people that we are liberating from the heel of the Axis. If it is true (and it is) that *food will win this war,* then growing more food in this country is our first job as individuals and as the homemakers of this country.

L-P Gas and natural gas companies can set up a program to assist in preserving these foods and surpluses and follow through on the Victory gardens of America. Dehydration makes possible the preservation of foods without the use of many critical materials.

Where does the gas company fit in?

1. Customer contact and consumer acceptance.
2. Range and fuel available.
3. Customers are essentially homes.
4. Ideal setup to follow through.
5. Only gas company can do it.

The gas range is the ideal method. It is possible to use the gas range oven or the top burners of the range for the purpose of properly dehydrating foods so that surpluses can be taken care of when they are in prime condition.

Use of the oven is quite simple. It is necessary to build two oven racks that might be called "dehydrator trays" for the gas range oven. The racks should be about

1½ in. smaller than inside dimensions of oven; frames should be built of wood and covered with a single thickness of cheese cloth or plastic hardware cloth, stretched tightly and secured to sides with thumb tacks. Be sure to brace corners of wooden framework and also stretch some type of support diagonally across from each corner of framework so that cloth will not sag.

After these trays have been built vegetables should be prepared by steaming in a covered container for approximately five to 10 minutes, depending upon the type of food and the age. This steaming, or "blanching," process is most important as it inactivates the enzymes or ferments which otherwise would survive dehydration and spoil the flavor of the food.

How to Adjust the Oven

After the above process, the vegetables should be peeled, sliced or cut and immediately placed upon the dehydrator trays and drying should be begun immediately. In using the oven for this purpose, it is recommended that the main burner be lit and the heat regulator set just above the minimum setting and well below the 250°F. location on the regulator dial. The oven door should be open 6 in. to 8 in. and a thermometer should be used that would register up to 160°F. The foods should be placed in the oven at about 130°F. in the beginning of the process, and as dehydration continues the temperature should gradually rise until 160°F. is reached by the time the operation has been completed. It takes from six to eight hours to properly dehydrate the average fruits and vegetables that will be available this year. It will also be necessary to shift the trays about every 30 minutes, and they should be turned from front to back at the same time.

Fruits should be "sulphured" or dipped in salt water solution before dehydration is begun to help prevent discoloration.

Advantages of Top Burner Drying

In using the top burners of the range, it will be necessary to build a portable dehydrator that fits above these burners. There are several advantages to be obtained from a top-of-the-stove unit. This type will have a capacity of about one bushel and less shifting of trays will be necessary. Information for a dehydrator of this type can be obtained from your State Department of Agriculture and I am sure you will want to experiment with a model of this type so that you can furnish your customers information that is localized and give them up-to-the-minute instructions, employing all of the information that is available.

It is necessary to properly package these foods as soon as they are finished. The food should be placed in air-tight containers, such as "seal type" waxed paper bags of a size that will hold a family serving, or plain waxed paper folded or sealed. These packages should in turn be stored in tightly covered larger containers.

I have studied this program as carefully as I know how and I believe that it will be possible for

you to furnish your customers with a plan that will be entirely practical and will make it easily possible for them to properly preserve all of their food surplus this year. And, I believe, it would be to the advantage of our industry to promote home dehydration as I am sure our chief competitor, which is the electric industry, cannot do a satisfactory job of oven-dehydration without the use of a great deal more critical materials than is necessary for you to use, as they must employ a fan to stimulate circulation through their ovens. With our ranges it will be possible to do a satisfactory job with the use of the simply constructed drying racks and methods as has been outlined. The top-of-the-range unit for gas ranges also can be built with a minimum of critical materials as neither fan, wiring materials, sockets or light bulbs are needed.

Why Gas Is Best Fuel

The most important advantage in using gas for dehydration is that a humid heat is produced which tends to eliminate "case-hardening," which can easily ruin the foods that are being processed. It is also very interesting to know that 15-cent-per-gallon LP-Gas will be about two-thirds the cost of 1-cent-per-kilowatt electricity.

You are interested I know in getting information to your customers and I would like to suggest some things that you can do to promote this service:

1. Give them information.
2. Demonstrate in your own offices.
3. Furnish plans and instructions.
4. Encourage them to go ahead.

You men that compose the LP-Gas industry are pioneers; you are bringing to rural America a new service — one that gives modern gas service, the same as people living in the city have had and have enjoyed. Dehydration is a new service, too, and it is one that you can bring to your customers, making possible for them to take advantage of the surplus in fruits and vegetables that will be available in season; making it possible for them to contribute toward the winning of this war by doing the one thing that is available to every American.

When you tie your company to this program, you are doing the same thing. In these days and times when it is necessary for you to say "No" so very many times to your customers, here is an opportunity to say "Yes" and help them with their problems in helping to win the war.

A news story covering the authorization by the War Production Board for the manufacture of 100,000 domestic food dehydrators in self-contained units will be found on Page 60.

"Drying Foods for Victory" is the name of a Department of Agriculture bulletin described on Page 52.

1942 Sales 585,440,000 Gallons, With Domestic Uses Up 36%

SALES of liquefied petroleum gases continued to expand strongly in 1942 as in recent years; however, difficulties connected with the war probably prevented the full supplying of the potential market. Distributors of liquefied petroleum gases reported sales of 585,440,000 gals. in 1942, a gain of 26.5% over 1941 deliveries of 462,852,000 gals., according to a survey made by the U. S. Bureau of Mines, Dept. or the Interior. The statistics were compiled by A. T. Coumbe, of the Petroleum Economics Division, Economics and Statistics Service.

The increase in 1942 compares with a 48% growth in demand in 1941 and a 40% gain in 1940. It is surprising that dealers, troubled by the shifting of supplies to raw material uses, inadequate transportation, lack of sufficient equipments and other handicaps, made the showing reported. The fact that the general public is fast learning to appreciate the many advantages and diversified uses of liquefied petroleum gases is evident in the rapidly growing market demand, which has approximately doubled since 1940.

All principal uses of liquefied petroleum gases showed important gains in 1942 over 1941. The quantity (299,559,000 gals.) reported for domestic or household consumption in 1942 was 36% above the 1941 total (220,722,000 gals.), a percentage increase somewhat below those made in 1941 (65%) and 1940 (53%); however, it must be realized that normal distribution to increasing numbers of consumers was impossible under conditions prevailing in 1942. Gas-manufacturing companies purchased 24% more liquefied petroleum gases in 1942 (31,366,000 gals.) than in 1941 (25,255,000 gals.), about the same gain in requirements as made in 1941 over 1940. A 41% expansion in the sales of liquefied petroleum gases for industrial fuel reported in 1941 (98,728,000 gals.) was not reached in 1942 (114,132,000 gals.) when the

TABLE 1. SALES OF LIQUEFIED PETROLEUM GASES, 1940-42.

(Thousands of Gallons)

Year	*Butane*	*Propane*	*Butane-propane mixtures*	*Pentane*	*Total*	*Percentage gain over Previous year*
1940	77,056	109,216	123,348	3,836	313,456	40.2
1941	112,244	126,969	219,252	4,387	462,852	47.7
1942	128,560	150,511	301,917	4,452	585,440	26.5

Prepared by A. T. Coumbe, Petroleum Economics Division.

TABLE 2. MARKETED PRODUCTION OF ALL LP-GASES. By Uses, 1941-1942.

(Thousands of Gallons)

Uses	*Total*	*% of Total*	*% Increase*	*Total*	*% of Total*
Domestic	299,559	51.2	36	220,722	47.7
Gas Manufacturing	31,366	5	24	25,255	5.5
Industrial	114,132	19.5	16	98,728	21.3
Chemical	53,038	9	20	44,206	9.6
Internal Combustion Engine	82,456	14.1	23	66,871	14.4
All Other Uses	4,889	0.8	..	7,070	1.5
Total Sales	585,440	100	27	462,852	100

increase over 1941 was only 16%. Difficulties in obtaining the more desirable butane for use as an industrial fuel was probably one of the reasons for the smaller relative growth in this particular use in 1942. Manufacturers of chemicals required 53,038,000 gals. of liquefied petroleum gases in 1942, or 20% more than the 1941 total of 44,206,000— again compared with a 28% increase in 1941 over 1940. Deliveries of liquefied petroleum gases for internal-combustion-engine fuel in 1942 of 82,456,000 gals. were 23% above the 1941 total of 66,871,000, or about the same increment (24%) as reported in 1941.

The American Gas Association has furnished the following data concerning the distribution of liquefied petroleum gas by manufactured-gas companies in 1942:

"At the end of 1942, liquefied petroleum gas was being delivered through mains to consumers in 208 communities in 31 states by 92 companies supplying 69,140 consumers.

"Butane-air gas with heating value ranging from 520 to 1300 Btu. per cu. ft. was supplied to 153 communities in 30 states. A mixture of undiluted butane and propane gas with a heating value of 2800 to 3000 Btu. per cu. ft. was supplied to 15 communities in Arizone, California and Nevada. Undiluted propane gas with a heating value of 2550 Btu. per cu. ft. was supplied to 40 communities in Maryland, Minnesota, New Jersey, North Dakota, Virginia and Wisconsin."

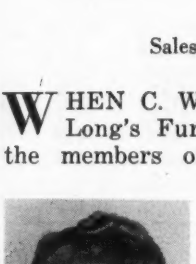
Deliveries of liquefied petroleum gases in the Pacific Coast* area (California, Oregon, Washington, Arizona and Nevada) increased from 102,885,000 gals. in 1941 to 126,905,000 in 1942, a gain of 23%. The demand for liquefied petroleum gases on the Pacific Coast represented 22% of the national total in both 1941 and 1942. The marketed production of liquefied petroleum gases in all other areas expanded by 27% from 359,967,000 gals. in 1941 to 458,535,000 gals. in 1942.

* The data for the Pacific Coast area appearing in this report were compiled by E. T. Knudsen, United States Bureau of Mines, Los Angeles, Calif.

Butane Business Picks Up When Natural Gas Comes To Town

By C. LOWELL RICHARDS
Sales Manager, Long's Furniture Store, Safford, Arizona

WHEN C. W. Long, owner of Long's Furniture Store, and the members of the sales staff heard a little over two years ago that natural gas was coming to Safford, Ariz., we thought the end of a prosperous business was in sight. For three years prior to then we had been selling butane to town folks in a number of localities, to farmers and to ranchers. The fuel was a God-send to those who had been using wood and oil and gasoline for household needs and power problems and we not only did well but had the sense of acting as benefactors to our friends and acquaintances.



C. L. RICHARDS

So appealing was the field that one year before the arrival of natural gas, we bought out the equipment and good will of our two competitors in the field. Then the news broke. Natural gas was coming!

Come it certainly did. The papers were full of it. The virtues of the fuel and its value to the district was on everybody's tongue. And what happened to us? Almost immediately our business began growing. We had gas to sell, too, and all the good things that were said about natural gas applied to our fuel, as well. What happened was that the whole country was made *gas conscious*. People soon realized what they had been missing. And those beyond the city mains turned to butane to provide the same conveniences as were given to their city friends.

Yes, the war came, too, and that hurt as much as natural gas had helped, for we were immediately restricted in making new installa-

Rear view of delivery truck tank showing transfer equipment.

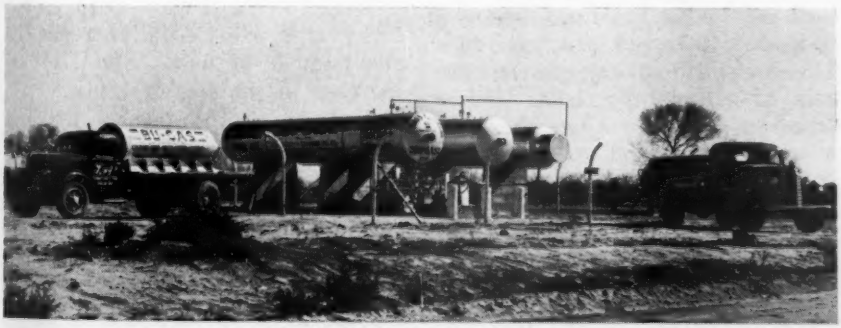
tions, but we are marking time with 500 tanks at work for us over a wide area. They range from 60 gals. to 1000 gals. in capacity.. We are serving them as well as we can and building friends and new customers for the time of expansion that is certain to come with the war's end.

The fuel we sell is called "Bu-Gas," a product of the Standard Oil Co. of Calif. Our territory runs from Bylas, 30 miles west of Safford, to Duncan, 50 miles east of Safford, made up of several small towns, farms and ranches. We also serve a sub-dealer in the Clifton and Morenci districts.

Before the war we kept four salesmen busy outside selling plant leases and appliances. In 1942 we held second place in the state of Arizona in the number of Servel refrigerators sold. That same year we bought and sold over three car loads of gas ranges.

We have always leased our gas plants instead of selling them outright to the customer. We have found that in our locality low priced leases on the gas equipment is the best and quickest way to build load. For instance, our 80-gal. plant leases for $29, of which we pay the salesman $5 for selling. The 166-gal. plant leases for $59, with $10 going to the salesman. Also we have found that paying our salesmen 15% commission on appliances sold with the gas plant, against 10% on appliances sold on natural gas, and owning an existing plant, creates more new installations.

Our territory being made up mostly of farmers and ranchers, we found that our accounts receivable were too heavy, as this type of customer was accustomed to paying accounts only once or twice a year. In January of 1942, we had a raise in the price of "Bu-Gas" at the refinery, and also a raise in the freight rates, both amounting to approximately 10%. At that time we raised the retail price of gas 10%, but to the customer paying his account within 30 days from date of delivery, we give 10% discount. This method cut our receivables approximately 50%.



Bulk plant and two delivery tank trucks of Long's Furniture Store, Safford, Ariz.

DAILY TANK TRUCK WORK SHEET

Name or number of truck.....*Date*.....
Operator of truck.....*Speedometer in evening*.....
Meter reading in evening.....*Speedometer in morning*.....
Meter reading in morning.....*Miles traveled today*.....
Gals. delivered today.....*Gals. in truck*.....
Gals. used in truck today.....*Gals. First Filling*.....
Total Gals. in truck today.....
Gals. left in truck.....
Gals. delivered .....

Customer's Name	Product Use	Ticket No.	Gallons	Per Gallon Price	Collected
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....

DAILY SCHEDULE OF FILLS

Location *Date* *194—*

Name	Tank No.	Terms	%

If customer's name appears on this sheet to be filled and the driver finds he does not need gas, the per cent. of gas in the tank is shown in the proper column.

Above: Record forms in use.

Our largest installation consists of two 1000-gal. tanks set together at the Fort Grant Industrial School for Boys. From the tanks we ran approximately 1000 ft. of 1¼-in. pipe, sealed together in one piece. This line is high pressure from the tanks, and we have installed a low pressure regulator at each of the 20 buildings where a ½-in. line takes off the main line. This institution averages over 1000 gals. of gas per month, as it uses "Bu-Gas" for cooking, heating, water heating, and refrigeration. We have several farmers using our fuel for all household purposes, as well as for use in pumping water for irrigation.

Our territory is divided into districts according to location, and each morning the driver is given a list of fills he is to make. With our 1300-gal. tank truck we are able to cover our complete territory every 30 days, although some of the tanks only require filling every 60 and 90 days. A card system is set up in our office and each customer's card is posted with every fill he gets. In that way no customer runs out of gas, as we can tell from the card how many gallons of gas he requires between any given times. This eliminates any call-backs.

During the four winter months we use four tank cars per month, and average two cars per month during the rest of the year.

For the post-war period we look for a substantial increase in the number of users, and also an increase in the size of tanks.

Looking to the future, we are carrying two radio programs per day, besides advertising once a week in our local newspaper. In this way we remind the people to take care of their appliances, let them know that we are giving service, and want to take care of their needs after the war.

THE BOTTLED GAS MANUAL

Chapter 20

Part II

Competitive Fuels --Electricity--

• **Part I of Chapter 20 of the Bottled Gas Manual appeared in the July issue of Butane-Propane News, Page 40. Questions and answers for both parts are given this month. At the opening of Part 2 the author is discussing, "The Problem of Meeting Electrical Competition with Blanket Rates."**
—Editor.

PERHAPS Table 4, showing low and high bracket charges throughout the United States, will be of assistance in devising a propane price schedule which will be a guide to price conditions wherever a dealer may operate.

Water Heating. So far we have not had much to say about water heating. This is because this service quite definitely falls into the lowest electric energy brackets. We can make ready comparisons in operating costs by referring to Table 2. By taking on the threefold service of refrigeration, cooking and water heating we can usually arrive at a more attractive price than can our electric competitors on the same basis.

Refrigeration. Let's first turn to "What the Buyer Can Expect From a Gas-Fired Refrigerator and From the Frigidaire Electric Refrigerator,"—a masterpiece of mud-slinging put out by the Frigidaire Division of General Motors Sales Corp., as they state, "for the confidential information of Frigidaire salesmen." Why, if true, it should not be put out for the enlightenment of the general public I have never been able to understand. We won't go into the comparative construction details or an analysis of "gadgets," but we will consider the criticisms made of principles and operating costs. Much ado is made concerning the gas refrigerator having a tiny gas flame in operation all of the time. According to these critics it heats up the room, smokes the walls, vitiates the air, and is dangerous. One would think from all of this that the gas refrigerator is a menace instead of a boon, but let's get at the facts. If a refrigerator burns 50 lbs. of propane per month and a month is made up of 30 days, the hourly input is only $\frac{50\times21{,}633}{30\times24}$ =1502 B.t.u. If an electric refrigerator uses 75 kwh. per month there are $\frac{75\times3412}{30\times24}$=355 heat units

• **The Bottled Gas Manual series by C. C. Turner, started in the July, 1941, issue of BUTANE-PROPANE *News* and will continue to be published monthly in chapter form until completed. This series constitutes a valuable text book and field manual that should be invaluable to everyone in the liquefied petroleum gas industry.—*Editor.***

TABLE 4. LOW AND HIGH BRACKET RATES FOR ELECTRICITY BY STATES WITH COMPARATIVE PRICES IN CENTS PER POUND FOR PROPANE.

State	Lowest or Highest Bracket	The 75 Kwh. Used For Refrigeration			The 150 Kwh. Used For Cooking			The 250 Kwh. Used For Water Heating			Comparative Propane Price in Cents Per Lb. For All 3 Services
		City or Town	Rate in Cents Per Kwh.	Comparative Price Propane Cents Per Lb.	City or Town	Rate in Cents Per Kwh.	Comparative Price Propane Cents Per Lb.	City or Town	Rate in Cents Per Kwh.	Comparative Price Propane Cents Per Lb.	
Alabama	L	Albertsville & 28 others	2.3	3.45	Cullman	1.5	5.28	Albertsville & 58 others	0.8	3.944	4.168
	H	Daphne & Point Clear	5.8	8.70	Troy	3.1	10.91	Alexander City & 4 others	3.0	14.79	11.51
Arizona	L	Roll & Wellton	2.0	3.00	Sacatan & 2 others	1.6	5.632	Chloride City & Kingman	0.6	2.958	3.767
	H	Bowie	22.0	33.00	Bowie	22.0	77.44	Bowie	22.0	108.46	72.909
Arkansas	L	Crossett	2.3	3.45	Bentonville	0.5	1.76	Ben Lormond & 6 others	0.8	3.944	3.122
	H	Bradley	8.0	12.00	Bradley	5.3	18.656	Bradley	4.0	19.72	16.710
California	L	Palo Alto & Santa Clara	2.3	3.45	Weaverville	1.0	3.52	Pasadena	0.3	1.479	2.773
	H	Point Arena	11.7	17.55	Point Arena	10.0	35.2	Point Arena	10.0	49.3	34.03
Colorado	L	Fort Morgan	2.0	3.00	Wiley	1.0	3.52	Nucla	0.8	3.944	3.488
	H	Crested Butte	8.8	13.2	Crested Butte	10.3	36.256	Crested Butte	9.3	45.849	31.605
Connecticut	L	Bloomfield & 13 others	2.5	3.75	Jewett City	1.5	5.28	Darien & 5 others	0.7	3.451	4.099
	H	Bantam & 7 others	5.0	7.50	Bethel & 4 others	3.0	10.56	Groton & 4 others	2.5	12.325	10.116
Delaware	L	Newark	3.9	5.85	Ellendale & Lincoln City	1.9	6.688	Arden & 44 others	1.0	4.93	5.773
	H	Ellendale & Lincoln City	6.3	9.45	Clayton	4.0	14.08	Clayton & 3 others	4.0	19.72	14.45

State	Lowest or Highest Bracket	The 75 Kwh. Used For Refrigeration			The 150 Kwh. Used For Cooking			The 250 Kwh. Used For Water Heating			Comparative Propane Price in Cents Per Lb. For All 3 Services
		City or Town	Rate in Cents Per Kwh.	Comparative Price Propane Cents Per Lb.	City or Town	Rate in Cents Per Kwh.	Comparative Price Propane Cents Per Lb.	City or Town	Rate in Cents Per Kwh.	Comparative Price Propane Cents Per Lb.	
Florida	L	Fort Meade	2.5	3.75	Lake Helen	1.7	5.984	Brooker & 2 others	0.9	4.43	4.654
	H	Boca Grande	10.7	16.05	Indiantown	10.0	35.2	Indiantown	10.0	49.3	33.50
Georgia	L	Marietta	2.2	3.30	Hogansville	1.3	4.572	Blairsville & 12 others	0.8	3.944	3.905
	H	Calhoun	5.3	7.95	Brinson & Iron City	5.0	17.60	Brinson & Iron City	5.0	24.65	16.72
Idaho	L	Paul	2.0	3.00	Rupert	1.0	3.52	Bovill & 23 others	0.1	0.493	2.267
	H	Challis	10.9	16.35	Challis	8.0	28.16	Challis	8.0	39.44	28.03
Illinois	L	Flora	2.2	3.30	Metropolis	1.1	3.872	Springfield	0.8	3.944	3.697
	H	Cave in Rock	8.7	13.05	Cave in Rock & Karnak	8.0	28.16	Cave in Rock & Karnak	8.0	39.44	26.87
Indiana	L	Auburn	2.1	3.15	Montgomery	0.2	0.704	Fort Wayne & Waynesdale	0.7	3.451	2.529
	H	New Harmony	6.5	9.75	Sanders & 2 others	5.0	17.60	Sanders & 2 others	5.0	24.65	17.35
Iowa	L	Bellevue	2.0	3.0	Seymour	0.7	2.464	Boone & 5 others	0.8	3.944	3.174
	H	Harpers Ferry	7.7	11.55	Danville	5.4	19.008	Woolstock	5.5	27.115	19.134
Kansas	L	Lincoln	1.9	2.85	Beloit	0.7	2.464	Kansas City	0.9	4.437	3.296
	H	Arcadia	9.3	13.95	Hanston & La Harpe	8.0	28.16	Hanston & La Harpe	8.0	39.44	27.19

(Continued to following page)

TABLE 4. LOW AND HIGH BRACKET RATES FOR ELECTRICITY BY STATES WITH COMPARATIVE PRICES IN CENTS PER POUND FOR PROPANE.—*(Continued from previous page.)*

State	Lowest or Highest Bracket	The 75 Kwh. Used For Refrigeration			The 150 Kwh. Used For Cooking			The 250 Kwh. Used For Water Heating			Comparative Propane Price in Cents Per Lb. For All 3 Services
		City or Town	Rate in Cents Per Kwh.	Comparative Price Propane Cents Per Lb.	City or Town	Rate in Cents Per Kwh.	Comparative Price Propane Cents Per Lb.	City or Town	Rate in Cents Per Kwh.	Comparative Price Propane Cents Per Lb.	
Kentucky	L	Bellevue & 7 others	2.0	3.0	Calvert & Gilbertsville	1.3	4.576	Burkesville & 6 others	0.8	3.944	3.802
	H	Albany & 2 others	7.6	11.4	Columbus	5.0	17.60	Columbus	5.0	24.65	17.93
Louisiana	L	Melville	1.9	2.85	Harrisonburg & 2 others	0.7	2.464	Rayville & Welsh	0.9	4.437	3.296
	H	Vidalia	5.6	8.4	Melville	9.7	34.144	Melville	7.9	38.947	26.860
Maine	L	Anson & 2 others	2.5	3.75	Cornish & Kezar Falls	1.5	5.28	Abbott & 210 others	0.8	3.944	4.273
	H	Vanceboro	9.0	13.5	Vanceboro	7.0	24.64	Vanceboro	5.4	26.622	21.454
Maryland & District of Columbia	L	Bethesda & 23 others	2.2	3.30	Berwyn & 10 others	1.4	4.928	Friendsville & Grantsville	0.9	4.437	4.186
	H	Chestertown & Rock Hall	6.0	9.00	Girtletree & Stockton	4.0	14.08	Funkstown & 3 others	3.0	14.79	12.55
Massachusetts	L	Braintree	2.4	3.6	Gleasondale & 2 others	1.7	5.984	Belmont	0.4	1.972	3.732
	H	Nantucket	7.7	11.55	Russell	6.0	21.12	Russell	6.0	29.58	20.77
Michigan	L	Traverse City	2.0	3.0	Marquette	1.0	3.52	Allegan & 4 others	0.8	3.944	3.488
	H	Atlanta	8.2	12.3	Moran	3.6	12.672	Atlanta	3.2	15.776	13.640
Minnesota	L	Rochester	1.5	2.25	Shakopee	0.8	2.816	Marshall	0.5	2.465	2.494
	H	Spooner	7.7	11.55	Spooner	7.0	24.64	Spooner	7.0	34.51	23.56

State	Lowest or Highest Bracket	The 75 Kwh. Used For Refrigeration			The 150 Kwh. Used For Cooking			The 250 Kwh. Used For Water Heating			Comparative Propane Price in Cents Per Lb. For All 3 Services
		City or Town	Rate in Cents Per Kwh.	Comparative Price Propane Cents Per Lb.	City or Town	Rate in Cents Per Kwh.	Comparative Price Propane Cents Per Lb.	City or Town	Rate in Cents Per Kwh.	Comparative Price Propane Cents Per Lb.	
Mississippi	L	Sevastopol & Tupelo	2.0	3.0	Yazoo City	0.8	2.816	Abbeville & 72 others	0.8	3.944	3.279
	H	Gloster	6.2	9.3	Centerville	4.7	16.544	Centerville & Mendenhall	3.6	17.748	14.442
Missouri	L	Saint Louis	2.4	3.6	Chillicothe	1.2	4.274	Chillicothe & Odessa	0.7	3.451	3.747
	H	O'Fallon	8.7	13.05	Mindenmines	7.0	24.64	Mindenmines	7.0	34.51	24.08
Montana	L	Hot Springs & 3 others	2.0	3.0	Hot Springs & 3 others	1.2	4.274	Big Fork & 5 others	0.8	3.944	3.712
	H	Westby	13.3	19.95	Westby	10.0	35.20	Westby	10.0	49.30	34.8
Nebraska	L	Burwell & Falls City	2.2	3.3	Fremont	0.9	3.168	Fremont	0.7	3.451	3.314
	H	Hayes Center	11.7	17.55	Hayes Center	11.0	38.72	Hayes Center	11.0	54.23	36.82
New Hampshire	L	Hinsdale	3.1	4.65	Berlin & 2 others	1.5	5.28	Allenstown & 89 others	1.0	4.93	4.93
	H	Ashland	6.3	9.45	New Ipswich	5.0	17.60	New Ipswich	5.0	24.65	17.25
New Jersey	L	Adams Station & 267 others	3.5	5.25	Vineland	2.1	7.392	Alpha & 407 others	1.0	4.93	5.773
	H	Lavallette	7.0	10.5	Ogdensburg	6.0	21.12	Ogdensburg	5.0	24.65	18.66
New Mexico	L	Raton	2.7	4.05	Raton	1.8	6.336	Raton	0.9	4.437	4.866
	H	Cleveland & 2 others	12.7	19.05	Cleveland & 2 others	12.0	42.24	Cleveland & 2 others	12.0	59.16	40.3

(Continued to following page)

TABLE 4. LOW AND HIGH BRACKET RATES FOR ELECTRICITY BY STATES WITH COMPARATIVE PRICES IN CENTS PER POUND FOR PROPANE.—*(Continued from previous page.)*

State	Lowest or Highest Bracket	The 75 Kwh. Used For Refrigeration			The 150 Kwh. Used For Cooking			The 250 Kwh. Used For Water Heating			Comparative Propane Price in Cents Per Lb. For All 3 Services
		City or Town	Rate in Cents Per Kwh.	Comparative Price Propane Cents Per Lb.	City or Town	Rate in Cents Per Kwh.	Comparative Price Propane Cents Per Lb.	City or Town	Rate in Cents Per Kwh.	Comparative Price Propane Cents Per Lb.	
New York	L	Dunkirk	2.1	3.15	Lyon Mountain	0.0	.....	Auburn & 10 others	1.1	5.423	3.017
	H	Fishers Island	10.0	15.0	Copenhagen	7.7	27.104	Copenhagen	7.0	34.51	25.500
North Carolina	L	Macclesfield	1.5	2.25	Shelby	0.5	1.76	Hayesville & 2 others	0.8	3.944	2.703
	H	Princeville	7.3	10.95	Princeville	8.0	28.16	Hamilton	5.0	24.65	20.91
North Dakota	L	Valley City	2.4	3.6	Valley City	1.5	5.28	McHenry	0.9	4.437	4.395
	H	New England	9.9	14.85	Fort Yates	5.7	20.064	Fort Yates	5.7	28.101	21.088
Ohio	L	Cincinnati & Norwood	2.0	3.0	Mendon	0.5	1.76	Vermilion	0.6	2.958	2.61
	H	Kelley's Island	8.0	12.0	Kelley's Island	7.3	25.696	Jerry City & Kelley's Island	6.0	29.58	22.291
Oklahoma	L	Braggs & Okay	2.7	4.05	Cherokee	1.0	3.52	Centrahoma & Tupelo	0.9	4.437	4.029
	H	Pittsburg	10.3	15.45	Cache	8.5	29.92	Cache	8.5	41.905	29.111
Oregon	L	Eugene	1.5	2.25	Canby & 4 others	1.0	3.52	Canby & 3 others	0.6	2.958	2.878
	H	Seneca	11.0	16.5	Seneca	11.0	38.72	Seneca	11.0	54.23	36.45
Pennsylvania	L	Schuylkill Haven	2.8	4.2	Aquashicola & 4 others	1.4	4.928	Grove City & Quakertown	0.8	3.944	4.325
	H	Riddlesburg	7.0	10.5	Riddlesburg	7.0	24.64	Riddlesburg	7.0	34.51	23.19

State	Lowest or Highest Bracket	The 75 Kwh. Used For Refrigeration			The 150 Kwh. Used For Cooking			The 250 Kwh. Used For Water Heating			Comparative Propane Price in Cents Per Lb. For All 3 Services
		City or Town	Rate in Cents Per Kwh.	Comparative Price Propane Cents Per Lb.	City or Town	Rate in Cents Per Kwh.	Comparative Price Propane Cents Per Lb.	City or Town	Rate in Cents Per Kwh.	Comparative Price Propane Cents Per Lb.	
Rhode Island	L	Adamsville & 45 others	4.2	6.3	Burrillville	2.3	8.096	Jamestown & 3 others	1.0	4.93	6.349
	H	Block Island	5.5	8.25	Block Island	6.3	22.176	Block Island	4.5	22.185	17.320
South Carolina	L	Aynor & 6 others	1.9	2.85	Orangeburg	1.5	5.28	Andrews & 43 others	0.9	4.437	4.134
	H	Saint Stephens	6.6	9.9	Saint Stephens	4.1	14.432	Saint Stephens	3.2	15.776	13.256
South Dakota	L	Kadoka & 5 others	2.3	3.45	Martin	0.2	0.704	Custer & Hill City	0.1	0.493	1.587
	H	Isabel	10.4	15.6	Bison	8.4	29.568	Bison	8.0	39.44	28.187
Tennessee	L	Lebanon & Norris	2.0	3.0	Cedar Hill & 2 others	1.4	4.928	Adamsville & 337 others	0.8	3.944	3.907
	H	Ducktown & Union City	3.9	5.85	Jellico & 3 others	3.0	10.56	Jellico & 2 others	3.0	14.79	10.41
Texas	L	Hallettsville & Tulia	1.9	2.85	Timpson	0.7	2.464	Aquilla & 45 others	0.9	4.437	3.296
	H	Andrews	6.2	9.3	Buna	6.5	22.88	Mansfield	4.0	19.72	17.02
Utah	L	Paragonah	0.3	0.45	Parowan	0.5	1.76	Charleston & 4 others	0.5	2.465	1.552
	H	Blanding	7.6	11.4	Blanding	7.2	25.344	Blanding	7.2	35.496	24.070
Vermont	L	Morrisville	1.8	2.7	Morrisville	0.7	2.464	East Fairfield & 8 others	0.6	2.958	2.721
	H	West Topsham	6.5	9.75	West Topsham	4.5	15.84	West Topsham	4.5	22.185	15.959

(Continued to following page)

TABLE 4. LOW AND HIGH BRACKET RATES FOR ELECTRICITY BY STATES WITH COMPARATIVE PRICES IN CENTS PER POUND FOR PROPANE.—*(Continued from previous page.)*

State	Lowest or Highest Bracket	The 75 Kwh. Used For Refrigeration			The 150 Kwh. Used For Cooking			The 250 Kwh. Used For Water Heating			Comparative Propane Price in Cents Per Lb. For All 3 Services
		City or Town	Rate in Cents Per Kwh.	Comparative Price Propane Cents Per Lb.	City or Town	Rate in Cents Per Kwh.	Comparative Price Propane Cents Per Lb.	City or Town	Rate in Cents Per Kwh.	Comparative Price Propane Cents Per Lb.	
Virginia	L	Arlington County	2.8	4.2	Barboursville & Madison	0.7	2.464	Abingdon & 3 others	0.7	3.451	3.418
	H	Hot Springs & Warm Springs	9.0	13.5	Hot Springs & Warm Springs	8.3	29.216	Hot Springs & Warm Springs	6.0	29.58	23.861
Washington	L	Brookdale & 4 others	1.0	1.5	Centralia	0.4	1.408	Alderwood Manor & 113 others	0.0	.....	0.941
	H	Starbuck	10.0	15.0	Starbuck	9.0	31.68	Starbuck	9.0	44.37	30.34
West Virginia	L	Beechbottom & 12 others	3.0	4.5	Bakerton & 18 others	1.9	6.688	Alderson & 10 others	1.0	4.93	5.302
	H	Thacker	7.5	11.25	Corinne	5.7	20.064	Ravenswood	3.1	15.283	15.297
Wisconsin	L	New London	1.8	2.7	Barrow & 9 others	1.5	5.28	Adell & 121 others	0.9	4.437	4.081
	H	Hazel Green	7.2	10.8	Hazel Green	4.0	14.08	Hazel Green	4.0	19.72	14.93
Wyoming	L	Evanston & Green River	2.9	4.35	Wheatland	0.4	1.408	Buffalo & 12 others	1.0	4.93	3.680
	H	Hudson	12.3	18.45	Encampment	10.0	35.20	Encampment	10.0	49.30	34.3

UNITED STATES AVERAGE

The average United States price for the 75 Kwh. used in refrigeration was 3.32 cents per Kwh. which would require a propane price of 4.98 cents per pound on a break-even basis.

The average United States price for the 150 Kwh. used in cooking was 2.1 cents per Kwh. which would require a propane price of 7.392 cents per pound on a break-even basis.

The average United States price for the 250 Kwh. used in water heating is not given.

The figures as to average Kwh. prices for the refrigeration and cooking brackets was taken from "Typical Electric Bills, Cities of 50,000 Population and More" published by the Federal Power Commission as of January 1, 1941. It is probable that if smaller communities were included in this report the average

that have to go somewhere, but nothing is said about that! Inasmuch as propane burns with a clear blue flame it does not discolor walls or create any dirt. As to vitiating the air, I prefer to hold my fire until we get to the matter of cooking, but I might state at this point that the presence of the housewife in the kitchen vitiates about as much air as 450 of the 6 cu. ft. refrigerator burners! As to the danger from fire I quote from the January, 1942, edition of BUTANE-PROPANE *News:*

"Continuing its effort to estimate the number, and classify the causes, of U. S. fires, the National Fire Protective Association has published its figures covering the year 1940. Basing its study on data received from 14 states and extending these to cover the nation, the Association estimates that there were a total of 725,000 fires in the United States during 1940, causing a loss of $290,000,000.

Gas and gas appliances are far down the list of the principal fire causes, being estimated to have caused 3500 fires, with a loss of $1,800,000. This is less than ½ of 1% of the total. During the same period electricity and electric appliances caused 72,000 fires with a loss of $26,300,000 and 9.9% of the total."

Much is made of the fact that the gas refrigerator has to be connected to a gas pipe whereas the electric refrigerator "can be moved about or located anywhere." One might ask, if this feature of moving the electric refrigerator about the house is such an important one why don't the electric boys put casters on them to facilitate such moving?

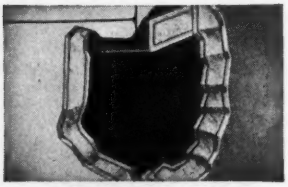
Another "boogie-man" produced to scare the prospect away from gas refrigeration is the matter of pressures within the system. The statement is made that pressures of 200 lbs. to 300 lbs. per sq. in. develop within the gas refrigerator, whereas the electric refrigerator operates on pressures of 40 lbs. or less. What of it? You ride around in an automobile with an engine literally in your lap, and within that engine pressures of over 1000 lbs. per sq. in. develop hundreds of times in a minute, yet you think nothing of it. The engine is built to stand it, with an adequate factor of safety, and you never hear of one blowing to pieces. Similarly, the factor of safety within a gas refrigerator is at least as great as that of an electric refrigerator, and to top it all, the gas refrigerator has nothing within it to make it vibrate and therefore tend to rupture.

The next blast is directed at the necessity of making adjustments, but nothing is said of the fact that once it is set, the gas refrigerator requires no more attention, that its simple mechanism does not deteriorate with use, that it is free from the call-back service trips and installing of replacement parts that is the bug-bear of the electric refrigerator. Admittedly, service work and the mussing up of a home is not pleasant to the housewife. Which is better, to have this over with once-and-for-all or to string it out in installments?

The last gasp comes in reference to freezing temperatures and speed. The gas refrigerator can, if anything, produce lower temperatures than the average electric refrigerator. Admittedly, it may take longer to reach certain low temperatures, but once it gets there it maintains them with an evenness not obtainable with the

Plenty of Points to Think About

I WAS lucky to get that beautiful piece of beef, even though it cost me lots of ration points. And I feel doubly lucky to have my Grand Range, to give that roast beef the kind of superior cooking treatment it deserves. Because my Grand has so many good points, too! The meat roasts evenly to a beautiful rich brown . . . and no waste from excess shrinkage. We get our full share of goodness from those precious ration points. My Grand oven is perfectly insulated with Rock Wool, so there's no wasted heat. That's just one of the ways it's giving efficient wartime service. And you can just bet that when I get a new range, it will be another Grand for me.



WHEN PEACE COMES...IT WILL BE GRAND

Grand

Grand Gas Ranges

DIVISION OF THE CLEVELAND COOPERATIVE STOVE COMPANY
CLEVELAND, OHIO

electric refrigerator. It is a well known fact that variations in cold —even slight ones—have a damaging effect upon the cellular construction of organic substances, hence it is but natural that the even temperatures in the gas refrigerator tend to keep foods in preservation better and longer.

And now we come to grips with that matter of operating cost. When both refrigerators are new the actual fuel cost for an electric refrigerator may be slightly less than that for the propane refrigerator, but mechanical parts in motion have a habit of wearing in spite of anything that can be done about it. This holds true of refrigerator pumps, whether they are of the conventional plunger type or of rotary design, and they are all of one of these two types, no matter what fancy name you call them. Electric motors also become less efficient with age. A conservative estimate is that there is a 5% difference per year. Let us take a refrigerator which uses 75 kwh. per month. This amounts to 900 kwh. in the first year, but with a 5% variation in efficiency the 900 kwh. per year becomes 1396.192 kwh. per year in ten years, or a total of 11,320.090 kwh. for a 10-year period. Because there are no moving parts excepting in the thermostatic control the gas refrigerator plugs along without depreciation year after year, and its competitive size will burn about 50 lbs. per month, 600 lbs. per year, year after year. At the end of 10 years it will have burned 6000 lbs. of propane, and $\frac{11,320.090}{6000}$ =1.88 kwh. will have been used for every pound of propane burned. Let's look at Table 5 to see how this affects the break-even price of propane.

We haven't mentioned the fact that in this period of time the elec-

TABLE 5. COMPARATIVE BREAK-EVEN PRICES FOR PROPANE WITH 1.5 KWH. TO 1 LB. AND 1.88 KWH. TO 1 LB. OF PROPANE

If Electricity Sells for c per Kwh	*Propane Can Sell for*		*If Electricity Sells for c per Kwh*	*Propane Can Sell for*	
	c per lb. on 1.55 Basis	*c per lb. on 1.88 Basis*		*c per lb. on 1.55 Basis*	*c per lb. on 1.88 Basis*
.5	.75	.94	3.50	5.25	6.68
.75	1.125	1.41	3.75	5.625	7.05
1.0	1.50	1.88	4.00	6.00	7.52
1.25	1.875	2.35	4.25	6.375	7.99
1.50	2.25	2.82	4.50	6.75	8.46
1.75	2.625	3.29	4.75	7.125	8.93
2.00	3.00	3.76	5.00	7.50	9.40
2.25	3.375	4.23	5.25	7.875	9.87
2.50	3.75	4.70	5.50	8.25	10.34
2.75	4.125	5.17	5.75	8.625	10.81
3.00	4.50	5.64	6.00	9.00	11.28
3.25	4.875	6.11			

tric refrigerator has probably required one or more thermostat switches besides other minor replacements or repairs, and the owner is just beginning to think of replacing it, thereby taking a large depreciation loss. On the other hand, the gas refrigerator is ready to start upon its second 10-year period of service for its owner in just as good operating condition and with practically as great efficiency as it had on the day that it was bought! Don't forget that this matter of depreciation enters into operating cost just as much as does the cost of the fuel.

Besides these matters of consistent operating costs, small depreciation, absence of repairs, no major moving mechanical parts, and even temperatures, the propane gas operated refrigerator has several other advantages. Electric refrigerators are dependent upon a central source of energy, and its failure means failure of the refrigerator. With its own independent propane gas supply, the gas refrigerator continues to function in spite of any major disaster, and the reserve in the system gives ample opportunity for the replenishment of fuel. Because it has no moving parts in its refrigerating mechanism, the gas refrigerator is absolutely silent, and also has no vibration. There are no mechanical valves in its refrigerating system and consequently a frequent cause of trouble is removed.

One particular feature of the gas refrigerator is most generally overlooked by both its merchandisers and its competitors. That is the possibility of converting its heat supply to either electric or kerosene operation if its owner so wishes. Because of this feature it is the most flexible of all mechanical refrigerators and the most adaptable to conditions as they may be found upon all parts of this globe.

We have only just started on this matter of electric competition, but the hour is getting late. Before continuing, however, let's see what we can do with some questions on this chapter. Study them, and then check yourself with the answers to be found on Page 56.

•

Questions on Chapter 20

1. In what order does the electrical industry go after water heating, cooking and refrigeration business?
2. What are the average kwh. demands for these three services according to the Federal Power Commission?
3. When both a propane gas and an electric refrigerator are new what is the average basis for energy equality?
4. After both refrigerators are 10 years old what is the average basis of energy equality?
5. What is the average basis of energy equality for domestic cooking between electric and propane gas ranges?
6. What is the average basis of energy equality for domestic water heating between propane gas and electric water heaters?
7. In which of the three domestic services can propane merchandisers be most competitive

LP Gas AND REGO

Insure perfect performance and economy by insisting on genuine Bastian-Blessing products identified by the RegO trademark

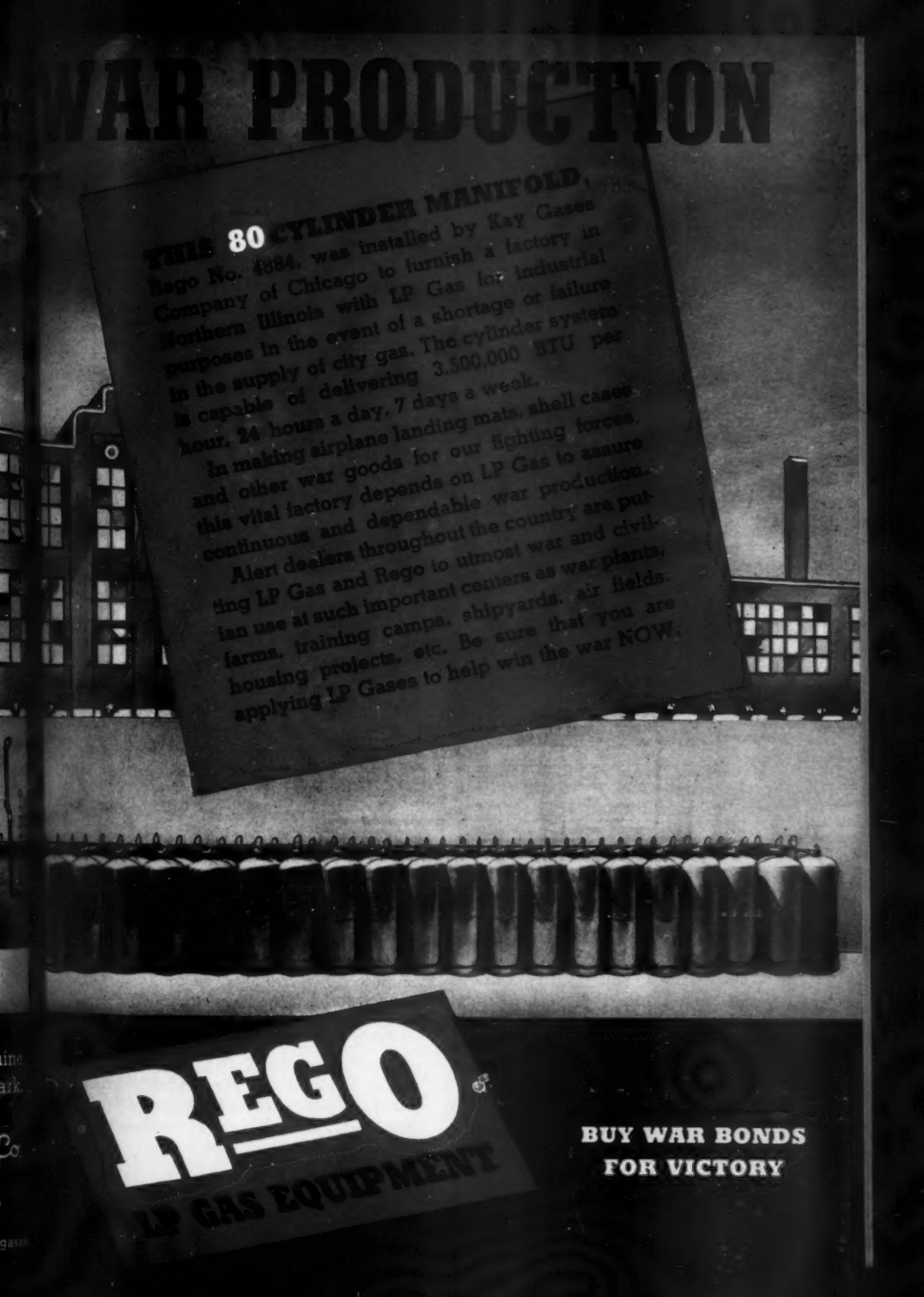
REGO LP GAS EQUIPMENT

UL LISTED WHERE APPROPRIATE EXAMINATION SERVICE UNDERWRITERS LABORATORIES INC.

The BASTIAN-BLESSING Co.

4233 Peterson Avenue Chicago, Ill.

Pioneers in equipment for using and controlling high pressure gas


WAR PRODUCTION
THIS 80 CYLINDER MANIFOLD, Rego No. 4884, was installed by Kay Gases Company of Chicago to furnish a factory in Northern Illinois with LP Gas for industrial purposes in the event of a shortage or failure in the supply of city gas. The cylinder system is capable of delivering 3,500,000 BTU per hour, 24 hours a day, 7 days a week.
In making airplane landing mats, shell cases and other war goods for our fighting forces, this vital factory depends on LP Gas to assure continuous and dependable war production.
Alert dealers throughout the country are putting LP Gas and Rego to utmost war and civilian use at such important centers as war plants, farms, training camps, shipyards, air fields, housing projects, etc. Be sure that you are applying LP Gases to help win the war NOW.
REGO
LP GAS EQUIPMENT
BUY WAR BONDS
FOR VICTORY

on the basis of energy equality?

8. A certain electric company has rates of 10 cents per kwh. for the first 20 kwh., 6 cents per kwh. for the next 40 kwh., 4 cents per kwh. for the next 20 kwh., and 2 cents per kwh. for all over this amount. On the basis of 25 kwh. for lights and small appliances, and 75 kwh. for refrigeration, how much per kwh. does a customer have to pay for refrigeration?
9. What should the corresponding price of propane be per pound on a break-even basis?
10. A. What per cent of the total number of fires is it estimated that electricity caused in 1940?
    B. What per cent of the total number of fires is it estimated that gas caused in 1940?

◆ ◆

Buna S Rubber Production Starts in Los Angeles

The first of three identical units for the production of "Buna S" synthetic rubber started operation the middle of June, under government supervision, at the new $15,000,000 polymerization plant in the Los Angeles harbor area.

It is being operated by the Goodyear Tire and Rubber Co. and the United States Rubber Co. through a new corporation, which will be known as the California Synthetic Rubber Corp., for the Rubber Reserve Co., a division of the Reconstruction Finance Corp., and was financed through the RFC's Defense Plant Corp., which supervised and now owns it. The final investment will total $55,000,000.

Sixteen million passenger car tires could probably be made from the plant's expected annual capacity of 90,000 long tons of Buna S rubber, under the managership of Paul S. Shoaff, formerly in charge of Goodyear's plantations in Sumatra, and associate manager, A. E. Jury, of the United States Rubber Co.

Also in the Los Angeles area, are government-owned butadiene and styrene plants for making the principal raw materials for synthetic rubber. The Shell Chemical Co. operates the main butadiene plant with the Southern California Gas Co. furnishing a big portion of the raw stocks, while the Standard Oil Co. of California has recently converted a plant to be used for supplying a large amount of the finished butadiene. The Dow Chemical Co. operates the plant that will produce all the styrene required for the polymerization plant.

◆ ◆

W. L. Hauck Leaves Scaife Co. To Recover Health in West

W. L. Hauck, for many yars district manager in the New York territory for Scaife Co., Oakmont, Pa., has resigned on account of his health and is moving to the Pacific Coast for an indefinite period.

In New York City on July 9 a large group of Mr. Hauck's friends gave him a farewell dinner at the Waldorf-Astoria hotel and presented him with a wrist watch as a parting remembrance. The dinner was instigated by H. Emerson Thomas and other close friends of Mr. Hauck's, including Frank Boice, who acted as toastmaster, Samuel Kapnek, Mark Anton and Wm. Torpy.

G. J. Asbee, who has been Scaife's cylinder specialist for the past four years has assumed Mr. Hauck's duties. He has been with the company for 12 years. J. E. Telling, Jr., replaces Mr. Asbee at the Oakmont plant.

3rd EDITION

Entirely Rewritten

Handbook

BUTANE-PROPANE GASES

481 Pages of Up-to-Date LP-Gas Information, Charts, Diagrams and Photographs

$5.00

CHECK THE NEW CONTENTS

PART 1. INTRODUCTION

Chapter 1: The Progress of the Industry and the History of its Development.

Chapter 2: The ABC of LP-Gas, an Introduction to LP-Gas Operations.

PART 2. PHYSICAL AND CHEMICAL PROPERTIES

Chapter 1: Properties of the Hydrocarbons in LP-Gas.

Chapter 2. Properties of Butane-Propane Mixtures.

Chapter 3: Volume Correction Factors.

Chapter 4: Analytical Determination and Testing.

PART 3. PRODUCTION OF LP-GAS

Chapter 1: Natural Gasoline Plants, Recycling Plants, Oil Refineries.

PART 4. TRANSPORTATION AND STORAGE

Chapter 1: Delivery by Truck, Rail, Water, and Pipe Line.

Chapter 2: Storage Tank and Pressure Vessel Design.

Chapter 3: Liquid Metering and Pumping Systems.

PART 5. DISTRIBUTION OF LP-GAS

Chapter 1: Installing and Servicing LP-Gas Systems.

Chapter 2: Semi-Bulk Systems.

Chapter 3: Bottled Gas Systems.

Chapter 4: Gas Utility Service From Central Plants.

Chapter 5: Multiple Utility Service From a Central Plant.

PART 6. UTILIZATION OF LP-GAS

Chapter 1: Comparative Performance With Other Fuels.

Chapter 2: Appliance Installation and Testing.

Chapter 3: Domestic Applications.

Chapter 4: Commercial Applications.

Chapter 5: Industrial Applications.

Chapter 6: Enrichment, Peak Load and Stand-by Uses.

Chapter 7: A Fuel for Internal Combustion Engines.

PART 7. REGULATIONS

Section 1: N.B.F.U. Pamphlet No. 58.

Section 2: Motor Carrier Regulations.

Section 3: Freight Regulations.

Section 4: Unloading Tank Cars .

Section 5: Marine Regulations.

PART 8. APPENDIX

Section 1: Products Liability Insurance.

Section 2: Handy Tables for Field Use.

Section 3: Bibliography.

Section 4: Glossary of Terms.

CATALOGUE SECTION

A comprehensive presentation of LP-Gas appliances and equipment by the manufacturers of the LP-Gas industry's best known products.

We pay postage on orders accompanied by check or money order. In California add 13c for sales tax. In Canada add 50c for excise tax.

ORDER YOUR COPY TODAY

BUTANE-PROPANE *News*

1709 W. 8th St. Los Angeles, Calif.

When the War Ends

How Will Appliances Be Sold?

• **AT THE ANNUAL meeting of the Association of Gas Appliance & Equipment Manufacturers in New York on June 29 the principal theme was naturally post-war in tone. Among others who addressed the members was Arthur P. Hirose, director of market research and promotion for "McCalls" and "Redbook" magazines. While his entire paper is too long for full printing and while the bulk of his remarks were of prime interest to manufacturers, many of his statements hold special interest for dealers and distributors of liquefied petroleum gas and gas appliances. On succeeding pages will be found some pertinent extracts from Mr. Hirose's talk which seem to most concern those members of our industry who will have the responsibility of reestablishing their sales markets after the war and who will do well to consider now the changing forces they will have to meet later, as visioned by one in an excellent position to know whereof he speaks.**

—Editor.

MANY things about the post-war market for gas appliances are surrounded by a host of question marks. Until the war is actually over, no one can know with certainty the answers to three vital questions: (1) What sort of economy we will be living under in America; (2) how much money will be available for gas appliances, and (3) what will be the attitude of people to whom gas appliances must be sold?

But of one thing I'm very certain. The people who expect that we will ever go back to the good old days in business or in marketing, are doomed to a terrible disappointment. There can be no such thing as a return to normal.

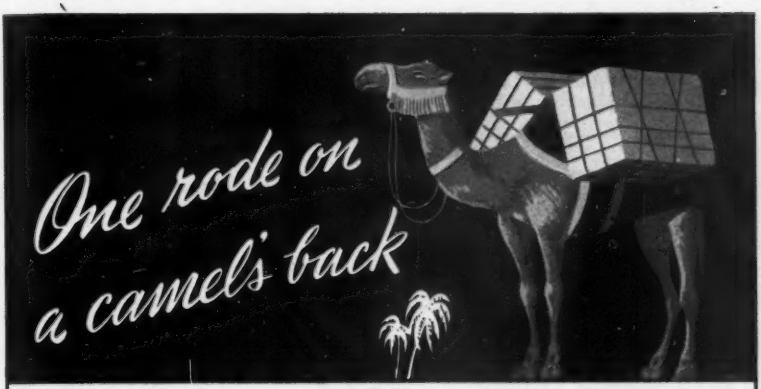
The pre-war days in gas appliance marketing are gone forever. They're gone because the economic, political and social changes which the war is breeding will make it impossible for the business of selling gas ranges, water heaters and other appliances *not* to change.

More Manufacturers?

There will undoubtedly be many more manufacturers in the home appliance business after the war than there were in the pre-war days. Most pre-war appliance manufacturers will resume production. To this must be added the appliance manufacturers who will expand their lines such as the range manufacturer who will add an automatic refrigerator when he resumes manufacture and the gas range factory that adds electric ranges, etc. The third group of appliance manufacturers will be composed of the companies who before the war made no appliances at all. This group embraces some of the aircraft companies, possibly some of the shipbuilding concerns, some chemical factories, etc. More of these companies are planning to make *electrical* than *gas* appliances.

The post-war market will consist of two separate and distinct parts—existing homes and new homes. Experience in the past has shown that equipment in new homes influences the appliance purchases of families living in old homes.

It is apparent that electrical appliance manufacturers are planning on



(Payne Products Are in the Fight, from Ain-Beida to Reykjavik)

Illustrated: Photographic Print Washer for Field Lab., U.S. Army Air Corps.

STREAMING to global war fronts—by 'plane, rail, ship, half-track, even camel-back—are strange new products of the PAYNE plant at Beverly Hills. They bear little resemblance to the furnaces we made in pre-war days, but each is built to the same high standards of precision and durability. ★ The device illustrated typifies PAYNE'S war-time production. But after Victory, our Dealers will have even finer PAYNE heating equipment to supply the great post-war demand.

PAYNEHEAT

NEARLY 30 YEARS OF LEADERSHIP.

Payne FURNACE & SUPPLY CO., INC., BEVERLY HILLS, CALIF.

determined efforts to push the all-electric kitchen for new post-war homes and especially for prefabricated homes. The trend toward the all-electric kitchen will be accelerated unless kitchen gas appliance manufacturers combine forces to promote the gas kitchen. Makers of gas water heaters and gas heating and air conditioning systems have a stake in this fight, too. Certainly if the fight is lost more and more new homes will be erected without connections to gas mains or with LP-Gas service.

I think you would do well to effect manufacturing economies by putting out fewer models and sizes of appliances than you had before the war.

Early Design Changes Unexpected

Heated discussions are now going on as to what the post-war appliances will look like. Most pre-war appliance manufacturers insist that for the good of the nation they will bring out first-cousins to their 1942 models by quickly using their 1942 tools and dies. They point out that the period of conversion will be long enough without lengthening it by fashioning new tools and dies. They argue that radically new appliances will need testing in the factories and out in homes and that such testing takes time.

Allied against existing appliance manufacturers is a collection of industrial designers, plastic makers, suppliers of glass and alloys, companies which expect to enter appliance manufacture after the Armistice and a crowd of vocal and articulate exponents who insist the brave new post-war world must bear no resemblance to the old-fashioned world of 1941-1942.

If we permit the public to believe that radically new and even fantastic gas appliances will appear the day after the Armistice, they will be in for disillusionment.

While the general trend of competition will be to reduce the price of appliances, this cannot be expected right after Armistice Day. War-Time prosperity, generally speaking, cuts down the rich and moves millions of the lowest income people into the middle class. After the war the great and expanded middle class will be the big market.

More Advertising Advised

While you will want to do all you can to lower the cost of distribution in the post-war era and thus lower the price of your gas appliances, I hope you won't lose sight of one marketing factor. This factor is that you will need a sufficient margin to do sales promotion and advertising on a far wider scale than was the habit in the gas appliance industry before the war. In the pre-Pearl Harbor days, the competition of the electric appliance people in ranges, refrigerators and water heaters was severe. So was the competition of the oil burner and coal stoker people. Unless you want the gas appliance industry's share of the home appliance market to decline percentage-wise, I hope you will leave ample margin in your prices to allow for radically increased selling, sales promotion and advertising.

The big problem of the post-war period will be the problem of appliance distribution.

It is true that most of the distribution channels through which you distributed your gas appliances before the war will either be in existence when the war is over or can be reconstituted. But the competition for the time and attention of these distribution channels will be greater than ever before. Likewise, these dealers will face livelier competition than

DALLAS TANK & WELDING COMPANY, INC.

BUTANE DIGEST

By W. W. BANKS

The war work we're doing will be reflected in future benefits. It is going to pay off in future dividends and you'll benefit by the development of our engineering skill and knowledge. We know that we are building fine products, but we are willing to learn how to make them better. You will not be able to see the results now because our fabrications have an important purpose in war uses. Our constantly and ever increasing knowledge, gained through research and laboratory, spurred on by the will to build finer products, later on will be widely applied to peace time uses.

•

In our products it is not so much what you see that counts as it is what you DO NOT see. For example: our Economy Butane System reflects quality at first inspection yet you do not see what took place before the unit was assembled. Here is where our background of engineering, the real "know how", the finest quality materials, fabrication methods and experienced workmanship blend into what we believe is the finest product of its kind. The same thing holds good for every tank which we manufacture. Yes, it's what you don't see that makes the difference in performance!

DALLAS TANK AND WELDING COMPANY, INC.

201-5 W. COMMERCE ST. DALLAS, TEXAS

in the past, both from new and old retailers.

Utilities. Because their primary function is the supplying of gas or gas and electricity, there seems little doubt that the utility companies will survive the war. The electric utilities will probably find themselves with some excess generating capacity after the war, even though this excess capacity may not be as large as some expect it to be. The natural tendency for the electric utilities will be to stimulate not only the peace-time industrial and commercial load, but the domestic consumer load as well.

However, not all electric utilities will merchandise appliances after the war. Those which will not, feel that local trade conditions are better without utility-dealer competition.

Gas Utilities Must Sell Appliances

Gas utilities will probably not have much excess plant capacity as will the electric utilities. But it will be necessary for gas appliance manufacturers to do all in their power to persuade gas companies to push the sale of gas ranges, gas refrigerators, water heaters, house heating and air conditioning.

There are a number of reasons why the gas appliance manufacturers will need to have the gas utilities in the merchandising business. One big reason is that without the gas company doing an aggressive appliance selling job, there will not be enough independent outlets in town doing a big selling job. Another important reason is that the gas appliance manufacturer needs the sales strategy locally which the gas company can give to the whole community selling job on gas appliances.

But it would be a mistake to believe that utility sales of gas appliances will be enough to stem the competition of appliances using other fuels in the post-war period. Additional retailers will be needed. Where will these additional outlets come from?

Department stores are a class of outlet that will survive the war, unless the unforeseen happens. Department stores will again be large factors in the sale of home appliances.

Mail order outlets. It's expected that mail order houses, like department stores, will be important and aggressive retailers of home appliances. What the attitude of both department stores and mail order houses will be to the national brands of appliances is not yet clear.

With so many appliance manufacturers, old and new, in the business after the war, there should be a boom in appliance advertising, as well as in appliance merchandising.

Private Brands. The future of the private brand appliance business after the war is not yet crystal clear. Waiting for private brands will certainly be the mail order houses, some department stores and department store chains and perhaps some chains from the auto tire and gasoline field. But I cannot see enough volume from all the private brand sellers to take care of too many appliance factories.

Appliance specialty dealers. While this group has probably shown the highest rate of mortality due to the war, it will be a group that will be enlarged and expanded, after the war. If there are not enough specialty appliance dealers in the picture when the war is over, electrical manufacturers can be expected to encourage business men to go into the specialty appliance business.

Building supply dealers. Here is a class of retail outlet which, before the war, was not an important appliance outlet. In the post-war period it's likely that more and more appliance

Need ENGINEERING assistance?

When time is of the essence, why struggle with problems involving heat applications, when there is a trained and fully staffed engineering force who are specialists in this field. ☆ These men are thoroughly conversant with all commercial and industrial applications of heat . . . whether it be space heating, drying, cooking, burning, baking, material heating. It makes little difference whether you need a small hand torch or the complete design and erection of a Butane power or standby plant — our engineers are ready to serve you with production equipment when possible, and with special designs when necessary. ☆ Your inquiries are invited.

RANSOME COMPANY

Designing and Constructing Engineers

4030 HOLLIS STREET · EMERYVILLE, CALIFORNIA

Ransome

manufacturers, with a building boom in mind, will distribute some of the production through building supply outlets.

Prefabricated-home manufacturers. Since a building boom of any magnitude in the post-war period will have to come from the erectors of pre-fabricated homes rather than slower method of individual home erection, many electrical appliance manufacturers are already discussing with prefabricated-home companies the question of supplying them with all or part of the appliance requirements of these new homes. There is manufacturing and distribution economy, at least theoretically, in the picture of the prefabricated home erector supplying the new home, and all of them paid for with the structure itself, on an amortizing basis, with the mortgage, itself.

Miscellaneous Classes Will Stay

There seem to be no reasons to expect any great changes in other miscellaneous classes of appliance retailers—the hardware dealers, the plumbers, the housefurnishing stores, the furniture dealers, the radio-music outlets, etc. All had their place in the pre-war appliance marketing picture. All should occupy some place after the war.

Before the war, consumers gave no great thought, in buying home appliances to the facilities a dealer had for giving quick and efficient repair service.

Home appliance manufacturers, likewise, were not extravagantly careful in pre-war days to see that their local dealers were properly equipped for appliance repairs.

The war has changed all this. Appliance service will be an important consideration in consumers' minds, at least for a few years after the war. Gas appliance manufacturers would therefore be wise to pick retail outlets that have a reputation for repair service and to see that this fact is well publicized.

With the coming increased competition from the electrical appliance field in mind, the gas appliance maker may be tempted to put on a drive for a large number of outlets. Isn't there a need for caution? Isn't one good, aggressive, specialty-selling outlet worth several dealers who merely stock your ranges, are swayed by price competition and in the end give your merchandise a bad name with the trade?

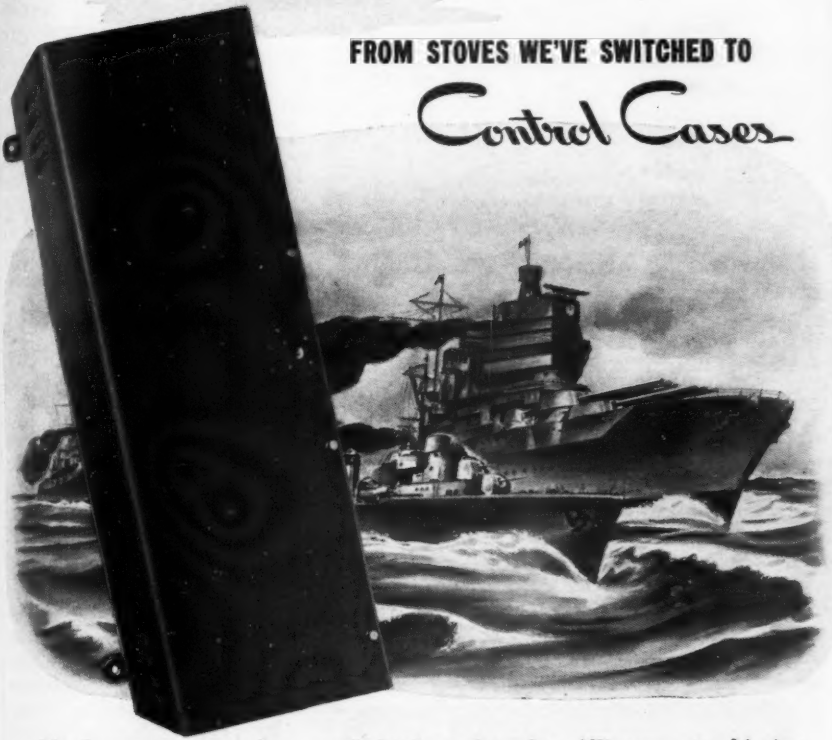
Should Seek Live Dealers

This much seems clear about distribution outlets for gas appliances in the post-war period: Manufacturers will be wise to look at their pre-war distribution channels coldly and objectively. If such an examination shows inadequacy for an era of keener competition then the appliance manufacturer will be smart to assemble new outlets, even if he has to discard, or cut across lines of traditional distribution. Advertising will play a large part in post-war appliance competition, but there is no substitute for aggressive local appliance dealers.

The post-war period will give you an excellent opportunity to improve your distribution. That seems more imperative now than before.

While there has been some mortality in the retail appliance business because dealers have gone out of business, most dealers have hung on with a skeleton crew. Certainly when the war is over, new appliance dealers can be expected to enter the business.

But the most serious mortality has been that of retail appliance salesmen. Many of them were younger



FROM STOVES WE'VE SWITCHED TO

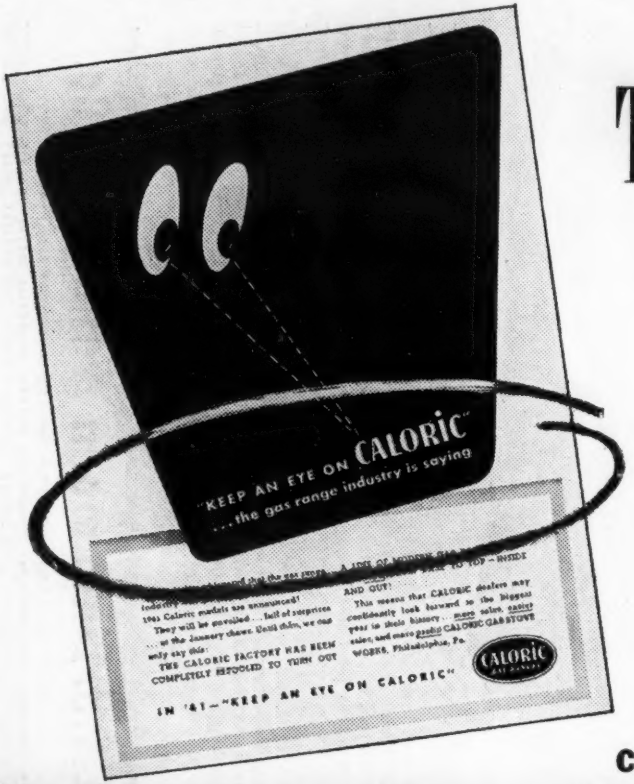
Control Cases

Metal cases to protect electrical control apparatus are being precision-made by L&H sheet metal workers. Steel tool boxes and metal containers for bomb parachutes are other products of their skill. From L & H looms comes cartridge belt webbing instead of stove wicks. Other departments produce tracer igniter shells, steel pins for tank tracks and motor truck assemblies. The facilities of this pioneer stove manufacturing organization are devoted to war-winning materials. In thus serving our Nation and our Allies we are achieving new precision manufacture that will be apparent in improved L&H post war products. In your planning for peace, keep L&H in mind. It will be a good line to tie to.

A. J. Lindemann & Hoverson Co.

MILWAUKEE • *Since 1875* • WISCONSIN

KEROGAS MANUFACTURERS OF ELECTRIC RANGES ELECTRIC WATER HEATERS GAS RANGES.. OIL STOVES . PORTABLE OVENS OIL HEATERS...WICKS ALCAZAR


"KEEP AN EYE ON CALORIC"
...the gas range industry is saying
AND OUT!
This means that CALORIC dealers may confidently look forward to the biggest year in their history... more sales, easier sales, and more profits! CALORIC GAS STOVE WORKS, Philadelphia, Pa.
THE CALORIC FACTORY HAS BEEN COMPLETELY RETOOLED TO TURN OUT
CALORIC
IN '41—"KEEP AN EYE ON CALORIC"

The EYES have it!

In 1941 and '42 dealers who kept an eye on Caloric saw it "sale" right up among the leaders in the gas range field.

Our "range of vision" today, in 1943, includes plans to keep Caloric at the top after the war. The eyes that watch Caloric now will *have* the best range in the field after the war. So now, *we* say, again—

KEEP AN EYE ON CALORIC

CALORIC GAS STOVE WORKS

PHILADELPHIA, PA.

men who have gone into the army. Others have gone into war plants. In any competitive market such as we can expect after the war, the retail salesman will play a vital part.

While it may not be exclusive responsibility of the gas appliance manufacturer to train retail appliance salespeople, this much is certain: That the manufacturer who has the best sales training program for retail appliance salesmen will enjoy an advantage of no mean proportions.

How long does it take for a woman to make up her mind what *type* and *brand* of kitchen range to buy? None of us know exactly.

Electric Advertising vs. Gas

When you go home, put yourself in a woman's place. Go through magazines that women read. You'll find a repetition of pre-war days. You'll find General Electric, Frigidaire, Kelvinator, Hotpoint, Westinghouse, Gibson and other manufacturers of electric ranges keeping up their advertising jobs, selling the virtue of electrical appliances. But the number of gas range manufacturers who are conditioning women to the value of their gas ranges for after the war you can count on the fingers of one hand.

It would be a fallacious appeal to tell you only that carefully prepared advertising may qualify as an acceptable war-expense deduction. It would be better to emphasize that national advertising throughout the balance of the war period in increasing tempo is a proper and essential time-saving foundation for your post-war advertising and selling efforts.

With all the old and all the new electrical appliance factories after the war, can the gas appliance industry wage anything but a losing fight, if it does as little national advertising as it did before the war?

John Bogan Leaves AGAEM to Join Cribben & Sexton

John E. Bogan, sales promotion and advertising director for the Association of Gas Appliance and Equipment Manufacturers, has joined the firm of Cribben & Sexton Co., Chicago, as general sales manager and war contract coordinator. G. D. Wilkinson, president of the manufacturers of Universal gas ranges, announced Mr. Bogan's new appointment to his company. Mr. Bogan, well-known in the appliance promotion and merchandising field, first joined AGAEM in 1939 as national counsellor and was promoted in 1940 to sales promotion and advertising director of that organization.

JOHN E. BOGAN

◆ ◆

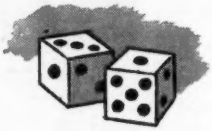
Servel Employees Receive Special Safety Award

A special award for distinguished service to safety was presented to the men and women employees of Servel, Inc., Evansville, Ind., June 12, in recognition of their remarkable showing in establishing a lost-time accident record which was greatly below the average for industries performing similar operations during 1942.

The award is in the form of a plaque, and was presented to Dr. Thomas Dobbins, medical and safety director of Servel who accepted it on behalf of the employees. The presentation was made by Daniel Thompson, chief of the radio section, National Safety Council.

ALGAS

DEPENDABLE GAS FOR EMERGENCIES



YOU CAN'T AFFORD TO GAMBLE ON YOUR GAS SUPPLY!

That is why war industries and gas utilities everywhere are insuring vital war production with Algas-installed GASAIR plants.

These gas-making units, right on your own premises, stand-by instantly ready to supply your gas needs in an emergency.

They solve every problem—filling in for piped gas during shortages, supplementing overloaded pipe lines, enrichening piped gas, etc.

Service Available Throughout U. S.
Write for Our Illustrated Brochure!

AMERICAN LIQUID GAS CORPORATION
1109 S. SANTA FE AVENUE • LOS ANGELES, CALIF.

RESEARCH

• **EACH MONTH a competent staff reviews more than 70 publications serving the oil, gas and affiliated industries in a search for those published articles of value to technicians and executives in the liquefied petroleum gas industry. In this department of** BUTANE-PROPANE *News*, **brief abstracts of such articles are presented.—Editor.**

Alkylation and Isomerization Combined in Aviation-Gasoline Plant.—F. M. Simpson, *The Oil and Gas Journal*, June 24, 1943, Page 89. The Cities Service Oil Co., Delaware, has recently completed facilities for the production of aviation algylate at its East Chicago, Ind., refinery. The production from this unit will add materially to the available supply of 100-octane number aviation gasoline for our armed forces. Essentially, the facility consists of an alkylation unit and a butane isomerization unit with auxiliary towers and equipment for feed and blending stock preparation. A fairly large number of alkylation plants are in operation and a few isomerization units are running in the country. This new plant is of interest as it is one of the first plants to be completed where the two processes are engineered as an integral unit.

Absorber Fabricated from Obsolete Materials—L. L. Dresser, *Petroleum Engineer*, March, 1943, Page 56. A major oil company was recently faced with the necessity of installing a 20,000,000 cu. ft. per day absorber for the extraction of lighter hydrocarbons. To complicate matters, under present conditions, months would have been required to obtain the critical materials necessary to fabricate a new vessel. In looking through their inventories, two 16-year-old, 6-ft. by 36-ft., 60-lb. working pressure, obsolete absorbers were discovered. These vessels had been discarded some time previously because their design did not enable them to recover the lighter hydrocarbons now so necessary during the war emergency.

Transportation of Explosives and Other Dangerous Articles by Freight. Supplement No. 6 to Agent W. S. Topping's Freight Tarriff No. 4 of Interstate Commerce Commission Regulations. Issued June 10, 1943; became effective July 10. This supplement includes specifications for shipping containers, contains all changes and cancels Supplements Nos. 1, 2, 3, 4 and 5. Covers liquefied petroleum gases.

Possibilities of the Petrochemical Industry are now Developing—By W. L. Nelson, *Oil and Gas Journal*, May 13, 1943, Page 38. A large petrochemical industry is already in operation with 100-octane aviation fuel, synthetic rubber, alkylation methods, and other processes for making special products from petroleum. Installation costs for chemical processes are much more than for a complete refinery. Typical are the costs of $250 to $400 per barrel capacity per day for a complete refining plant, compared to $900 to $1400 per barrel for 100-octane gasoline and $5000 to $22,000 per barrel of butane for butadiene. Huge increases in the market

value of chemicals from petroleum will make this field increasingly attractive to refiners and chemical manufacturers.

Bacteria as Geological Agents With Particular Reference to Petroleum.—Claude E. ZoBell. *Petroleum World,* June, 1943, Page 30. Marine scientists, engaged on A.P.I. research project concerning origin of oil, have determined that bacteria may play a big role in its formation and accumulation, and may even provide a clue to the detection of existing deposits.

Development in Analysis of Hydrocarbon Gases by Absorption Fractionation— Nelson C. Turner, *Oil and Gas Journal,* April 29, 1943, Page 48. The normal method of analyzing mixtures of hydrocarbons is by means of a fractionating device in which the different components are separated on the basis of their boiling points. In this article, which was presented as a paper before the recent meeting of the Natural Gasoline Association of America, the author shows how accurate analyses can be made by separating components on the basis of difference in composition of the phases adsorbed and unadsorbed by activated charcoal.

Survey of Fuel Consumption at Refineries in 1941, by G. R. Hopkins. U. S. Bureau of Mines report on investigations, No. 3703. 2 pp. 2 figs. Shows that average heat requirement per barrel of crude refined in the United States rose from 579,000 Btu. in 1940 to 584,000 Btu. in 1941, marking the second year of apparent loss in fuel efficiency at refineries. An important factor may have been the use of obsolete equipment to increase throughput.

Equipment Reclamation Saves Materials in Kansas Refinery—Neil Williams, *Oil and Gas Journal,* May 20, 1943, Page 66. The difficulty of obtaining certain equipment and materials has led refiners to various expediencies in making needed additions and replacements to their plants. How effective, utilization of salvaged equipment was made in one large Kansas refinery to reduce requirements for new materials is described in this article.

Drying Foods for Victory Meals. Farmers' Bulletin No. 1918, U.S. Department of Agriculture, Washington, D. C. Intensive research on home drying is under way. This bulletin does not attempt to give all the answers. It brings together the most satisfactory information to date on methods of drying several fruits and vegetables widely grown throughout the United States.

Correct Method of Applying Clips to Wire Rope—F. L. Spangler, *Petroleum Engineer,* March, 1943, Page 58. Careful attention to application minimizes equipment replacement and machine shutdowns.

Calibration of Horizontal Cylindrical Tanks—Herndon David. *Oil and Gas Journal,* March 4, 1943, Page 49. Here is a simple method of determining the volume of horizontal cylindrical tanks which involves less calculation than any other method.

Some Aspects of Cycling Processes.—Randal Maass, *Petroleum World,* June, 1943, Page 51. Each process must be re-evaluated for every new project, since differing sets of conditions may make widely differing processes appear attractive for their respective conditions.

BRYANT NATIONAL ADVERTISING HELPS SELL YOUR PROSPECTS

Month after month, Bryant's national advertising tells the American public of the advantages of gas heating. These messages are read by prospects in your territory. You can cash in on this pre-sold market by selling Bryant gas heating.

The answer still is

GAS

FOR HOUSE HEATING

You hear lots of theories these days on how the homes of tomorrow will be heated. But the fact remains that nothing surpasses the comfort, convenience, cleanliness and economy of gas heating (Natural, Manufactured and L. P. G.).

After the war, there will be thousands of homeowners who, for the first time, will be in the market for gas heating. There will be an unprecedented demand for modern equipment for old as well as new homes.

Bryant offers quality equipment you can sell to everyone from owners of modest bungalows to large residences. You are backed by the experience and assistance of the national sales and engineering organization that pioneered gas heating. You'll be selling the best when you sell Bryant!

Prepare now to sell Bryant equipment to this postwar market.

THE BRYANT HEATER COMPANY
17825 St. Clair Avenue Cleveland 10, Ohio

Bryant
GAS HEATING

ENSIGN

BUTANE-PROPANE CARBURETORS

Working for Victory

ENSIGN Butane-Propane Carburetors are playing an important part in the Victory effort. We are proud of this fact and are devoting our modern facilities and long experience to the successful completion of this assignment. Helping to win the war is our chief duty at this time.

But still available

ON THE HOME FRONT

However, ENSIGN Carburetors for Butane-Propane and Gasoline are still available for uses not directly connected with the war effort. It may take us a little longer than usual to supply the demand for carburetors, but quick delivery of emergency parts is assured. Now, as always, ENSIGN is unequaled for efficient and economical carburetion.

ENSIGN

CARBURETOR CO., LTD.

HUNTINGTON PARK • CALIFORNIA

Before ordering ENSIG Butane-Propane Carburet Equipment or Parts, read W.P.B. General Limitation Order L-8 Copies can be obtained fro your nearest W.P.B. office.

Care In Filling Out PD-1A Applications Will Aid Dealers and WPB

FILING a PD-1A application is not just a mere formality which automatically produces a priority rating, says the Priorities Division of the War Production Board at its Los Angeles offices.

As the war continues and materials become ever scarcer, ratings will be granted only for the most essential needs. Whether an individual case is approved or denied depends upon the fullness of the factual information given in an application.

In an effort to help LP-Gas men properly fill out their PD-1A applications, special instructions have been prepared for the portions which have developed the most difficulties in the past. These, numbered for reference, are given here:

No. 2—State fully what you make or do. Is the final product for military or for civilian use?

No. 5—If you are asking for a piece of equipment not widely known, please attach a cut or advertising picture of it.

No. 10—Give name and address of supplier, and *also his telephone number.*

No. 11—Get this information from your supplier.

No. 12—Here, in addition to information asked on PD-1A form, *state what rating* your supplier is asking to release the machine, equipment or material, *and why.* Is it in his stock or must he order from the factory?

No. 13—All manufacturers use first column. All businesses use second column. This information must be given.

No. 14—Be sure to give the information requested.

No. 15—If for capital equipment (an asset) be sure to answer all sections of the question.

No. 16—Note that total value must be given at top of page. List articles separately, also quantity and price. A *definite* delivery date, the day, month, and year, must be given. Do not say "immediately," "at once," or "as soon as possible." Fill out as you would a purchase order.

No. 17—Refers to *your* inventory, not your supplier's.

No. 18—Be sure to sign the duplicate copy in this space.

Read the instruction sheet on the form carefully, especially under the headings of General & Restrictions.

Remember priority assistance is granted only on real proof of essentiality. Detailed facts, and not generalities, must govern consideration of your application. Tell your story fully.

Tear application along the vertical folds. Keep the triplicate copy for your file. Mail the original and duplicate to this office.

◆ ◆

WPB Raises Dollar Limit Of PD-1A Applications

The WPB has raised the dollar limit of PD-1A applications processed in the field from $100 to $500, effective May 8, 1943.

Applications involving not more than $500 worth of material on which priority assistance is requested will be processed in either the district or regional offices according to the direction of the respective regional directors, except where specifically otherwise directed by the director of the distribution bureau.

The new order means that now more than 80% of all PD-1A applications will be handled entirely by the field offices.

◆ ◆

J. R. Travis is President Of Eaton Metal Products

J. R. Travis has been elected to the presidency of Eaton Metal Products Co., Denver, succeeding A. N. Eaton, who passed away recently.

The company handles LP-Gas equipment.

Answers

To Chapter 20
The Bottled Gas Manual

Here are the answers to the questions on Page 35 and which refer to problems in Chapter 20 of THE BOTTLED GAS MANUAL:

1. Refrigeration, cooking, water heating.
2. 75 kwh. for refrigeration, 150 kwh. for cooking, 250 kwh. for water heating.
3. 1.5 kwh. to 1 lb. of propane.
4. 1.88 kwh. to 1 lb. of propane.
5. 3.52 kwh. to 1 lb. of propane.
6. 4.93 kwh. to 1 lb. of propane.
7. Water heating.
8. We are interested in the last 75 kwh. of the first 100 kwh.

The first 20 kwh. cost 10 cents each or $2.00
The next 5 kwh. cost 6 cents each or $0.30
Total cost of lights and small appliances $2.30
The next 35 kwh. cost 6 cents each or $2.10
The next 20 kwh. cost 4 cents each or $0.80
The next 20 kwh. cost 2 cents each or $0.40
Last 75 kwh. cost.....$3.30
or 4.4 cents per kwh.

9. 4.4 cent×1.5=6.6c per lb.
10. Electricity 9.9%. Gas ½ of 1%.

◆ ◆

Amendment to L-63 Covers Inventories

An amendment to L-63 now exempts from the terms of the Order suppliers whose total inventory at cost is less than $35,000.

Maximum permissible inventory for suppliers who are covered is changed so that now suppliers located in Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma and Texas are limited to inventories whose total dollar cost value equals sales shipped from inventory during the four preceding calendar months.

Other non-exempt suppliers are limited to inventories of a total dollar value at cost equal to sales shipped from inventory during the three preceding calendar months.

Lines of seasonal goods may not be stocked beyond permissible inventory limits during a period of 120 days rather than 90 days as previously. Records must be kept on Form WPB-825. Copies of the amended Limitation Order L-63, June 10, 1943, may be had from the WPB.

For

"AFCO" Tanks

Write the

ARKANSAS FOUNDRY CO.
IRON & STEEL

Manufacturers of ASME U-69
Underground Storage Tanks for Butane

Arkansas Foundry Company

1501 EAST SIXTH STREET
LITTLE ROCK, ARKANSAS

Phones
LD 66 Local 8231

WPB Issues Interpretation To Gas Cylinder Order

The following official interpretation was issued June 25 with respect to General Preference Order M-233 by the War Production Board:

No preference rating for maintenance, repair and operating supplies may be used to obtain gas cylinders. A provision to this effect is incorporated in List B, Item 9 of Priorities Regulation 3.

A user desiring to purchase gas cylinders is required to obtain a preference rating assigned specifically for this purpose on a form such as PD-1-A or PD-3-A. However, General Preference Order M-233 provides that no gas cylinders or gas cylinder forgings shall be manufactured or delivered except as specifically directed by the War Production Board on Form PD-662. Consequently, even though a preference rating is obtained by the user, the direction of the War Production Board is still necessary before the producer may manufacture or deliver a gas cylinder.

Many users of gas cylinders operating under Preference Rating Order P-98-b have erroneously interpreted that order as giving them the right to apply to the purchase of gas cylinders a rating of AA-1 assigned in that order for maintenance, repair and operating supplies, despite the fact that paragraph (d) of Schedule C thereof specifically excludes containers from the provisions of that order. Likewise, users have misinterpreted CMP Regulation 5 as giving them the right to apply the maintenance, repair and operating supplies ratings assigned by that regulation for the purchase of gas cylinders, despite the fact that Item 1 of List A specifically excludes containers.

Under no circumstances, whether the user carries his gas cylinders as operating supplies or capital equipment, can he apply a preference rating for maintenance, repair and operating supplies in ordering a gas cylinder from the manufacturer, and if he does so, the manufacturer should return the order so that the user may obtain a proper preference rating.

◆ ◆

Government Asks For Steel Valves Not In Use

The War Production Board on July 9 moved to relieve a critical shortage of new steel valves needed for some of the nation's vital war programs, such as shipbuilding, high octane gasoline, and synthetic rubber by calling upon all users of new high pressure steel valves to list their surplus items, in sizes of one-quarter inch and upward.

"Surplus" valves are defined generally as those which the present holder will not require for use before Nov. 1, 1943.

Holders of new steel valves are being called upon to list their surplus stocks on Form WPB 2844. They also are asked to indicate whether they are willing to sell such valves to the Government. If those sold must be replaced later, the holders are asked to indicate the desired replacement date, so that arrangements for replacement can be made now with the manufacturers.

◆ ◆

C. J. Pearson Buys Interest In LP-Gas Firm in Georgia

Carter J. Pearson, for three years vice president of the Georgia Automatic Gas Co., Atlanta, Ga., sold his interest in that firm last fall to W. S. Christopher, president of the same company.

Since then Mr. Carter has purchased a controlling interest in Automatic Gas Co., of Gainsville, Ga. R. J. Westbrook is president of this company and Mrs. C. J. Pearson is secretary-treasurer.

◆ ◆

CNGA Elects Officers For Ensuing Year

The California Natural Gasoline Association, through its board of directors, has named R. W. Heath as its president for the 1943-1944 term. Mr. Heath is manager of the gas department of the Signal Oil Co., Los Angeles.

C. D. Gard, of the Union Oil Co. of California, Los Angeles, was elected vice president, and George L. Tyler was reelected secretary-treasurer.

Oklahoma Dealers Warned Against Illegal Tank Fillings

Warnings have been sent to liquefied petroleum gas dealers in Oklahoma by T. J. Ellis, state fire marshal and LP-Gas administrator, against encroaching on routes of others in the industry, particularly against filling tanks without due authority.

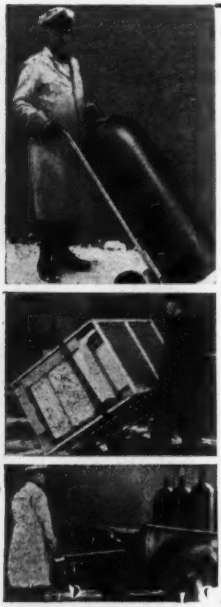
In a circular letter to the industry in Oklahoma, Mr. Ellis says: "It has come to our attention that the laws of the State of Oklahoma are being flagrantly violated. Part of this may be due to unfamiliarity with the law and under the presumption that this is true, we are writing this letter in order to give you a resume of these laws and to advise you of our intention to enforce them."

Particular attention is called in the letter to a regulation which provides that portable containers shall be filled only at a place specifically designed and permanently constructed for the purpose and approved by the Oklahoma liquefied petroleum gas administrator. Another rule is cited which provides that, "No person, firm or corporation other than the owner, or person authorized by the owner to do so, shall fill, refill or use in any manner, such liquefied gas container or receptacle for any gas or compound or for any other purpose whatsoever."

◆ ◆

ODT Order No. 21 Is Amended

The Office of Defense Transportation amended General Order 21 on June 30 to permit commercial motor vehicle operators to use their vehicles without having Certificates of War Necessity on them, when the Certificates are in the possession of the ODT or the OPA.



THOMAS highly useful

DOUBLE DUTY HAND TRUCKS

An all purpose, one man truck for moving both cylinders and appliances. No more back breaking lifting, either. Tapered body gives operator ample room between handles.
Cradle construction accommodates any size cylinder up to 100 pound capacity. Wide Bottom flanges give support for appliances. Web strap (optional) holds appliance rigidly.
Rounded handle grips permit skidding from end of delivery truck. Time saving, labor saving, cost cutting.

Write for prices and descriptive folder.

Thomas Truck & Caster Co.

4385 Mississippi River Keokuk, Iowa

For Greater STABILITY

. . . of Higher Quality Butane and Propane—for a Stable and More Uniform Product—assuring the utmost in satisfaction and efficient, trouble-free service—try Carter Better Products.

For complete information concerning Carter's dependable service write: The Carter Oil Company, Marketing Department, Room 928 National Bank of Tulsa Building, Tulsa, Okla.

DEHYDRATED

Propane and Butane

THE CARTER OIL COMPANY

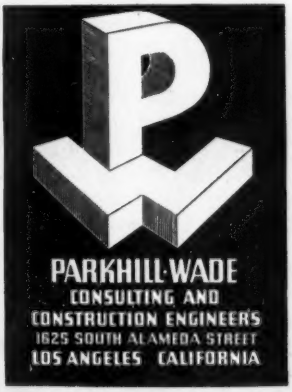
TULSA, OKLAHOMA

Shipping Points: Seminole, Okla., Stonewall, Okla., St. Elmo, Ill.

WHOLESALE ONLY!

Refineries and Plants

For Recovery of
Isobutane
N-Butane
Propane



Superior FLARE FITTINGS

Especially for

L. P. G. INSTALLATIONS

SAE (Flare) Unions, Couplings, Adapters, Elbows, Tees, Crosses and Nuts

Listed as Standard by
UNDERWRITERS LABORATORIES, INC.

WRITE FOR BULLETIN

SUPERIOR VALVE & FITTINGS CO.
1509 WEST LIBERTY AVENUE
PITTSBURGH • PENNSYLVANIA

Domestic Food Dehydration Authorized by WPB

Regulations governing the production of 100,000 domestic food dehydrators in self-contained units were announced by the War Production Board on July 8 with issuance of a new order, L-308. Plans for this production were announced by WPB on June 22.

The order includes a schedule of 31 manufacturers who will participate in the program to produce the food-preserving units. The manufacturers of all units permitted under quotas assigned by the order must be completed before Sept. 1. Although only 89,000 units are scheduled initially, this production will be supplemented by the assembly of "kits" (dehydrator parts) at vocational-educational training centers, which will round out the production program.

The domestic food dehydrators identified by L-308 are described as cabinets that are self-contained food drying units. Each is equipped with a fan or blower, a thermostat, and heated by an electric heating element, light bulbs, or fuel-burning device. They are constructed so that temperature, humidity, and air-flow are controlled. (Dehydration story Page 14.)

◆ ◆

American Liquid Gas Publishes Book on Standby Plants

One of the major problems confronting all industry today is an adequate and continuous fuel supply at hours of peak loads or when the supply fails altogether. Insuring uninterrupted production by war plants and other institutions is the LP-Gas standby plant, which can fill emergencies or furnish a constant gas supply, as needed.

The vital place that these gas standby plants are occupying in auxiliary capacities to natural gas plants or as a sole source of fuel supply is instructively told in a brochure recently published by the American Liquid Gas Corp., 1109 So. Santa Fe Ave., Los Angeles, and which is available upon request. This booklet describes many intallations made by the company, including those at the Kaiser steel mill, Phelps-Dodge Los Angeles plant, Basic Magnesium near Las Vegas, Douglas Aircraft in El Segundo and numerous industrial institutions.

Also described are Algas units for heavy duty automotive equipment, pumping and other uses when gasoline engines have been converted to burn liquefied petroleum gases. The book is elaborately illustrated.

◆ ◆

Truck Operators Must Make Monthly Reports

To maintain an accurate check on current truck operations in the Nation, the Office of Defense Transportation July 9 established a selective monthly report procedure for certain truck operators which will replace the quarterly operation reports previously required of all fleet truck operators.

First monthly report under the new procedure will cover July operations. It will be due August 10.

ODT is now deciding which group of truck operators will be required to file the monthly reports beginning with July. Those operators will be notified by mail before Aug. 1.

Because of the change in reporting procedure it is important that all truck operators maintain accurate, up-to-date operation records, the ODT emphasized.

Adoption of the new procedure, however, will not relieve fleet operators from filing current second quarter report, the ODT said.

TiteSeal

Joint-Sealing and Gasket Compound

"We have used *TiteSeal* for our Mobile, Alabama installation of over 1,000 homes and have found it serving its purpose admirably."

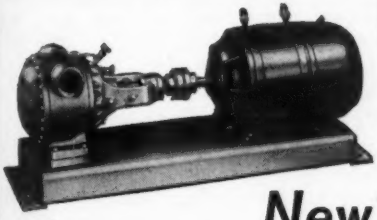
(Signed) K. H. Koach
Vice Pres. & Gen. Mgr.
Green's Fuel, Inc.
Sarasota, Florida

Brush-On TiteSeal
In the brush-equipped can, is a "natural" for gas plant maintenance, installation or service work. Green's Fuel, Inc., uses Brush-On **TiteSeal.**

TiteSeal
DIVISION OF

Leak-Proof
Heat-Proof
Non-Hardening

RADIATOR SPECIALTY COMPANY
LOS ANGELES CHARLOTTE, N. C. TORONTO



New
For PROPANE Model 210
SMITH PUMPS

meet every requirement. The balanced gear construction of SMITH Butane-Propane PUMPS reduces internal wear. Fluid sealed packing box makes hazardous gas leaks impossible.
Order Model 211 for truck mounting.
Immediate Delivery

SMITH *Precision Products* **COMPANY**
1135 MISSION ST. · SOUTH PASADENA, CALIF.

When our boys come marching home!

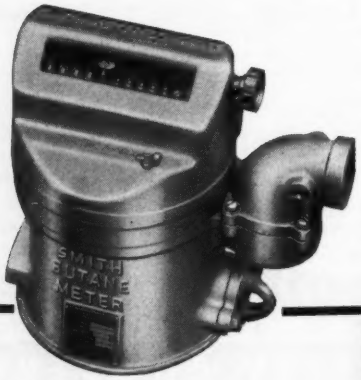
THEN Industry Will Turn to Production of Plow Shares Instead of Swords.

WE WHO MANUFACTURE
METALBESTOS
GAS VENT & FLUE PIPE
Are Bending Every Effort to Production of War Products.

We'll be seeing you!

WILLIAMS-WALLACE CO.
SAN FRANCISCO

Smith Butane Meter BU-40



(Available on priority as are all other Smith Meters)

- positive displacement, Smith Rotary Principle
- 50 gallons per minute
- fast, steady flow
- low head loss
- no pistons or valves to wear
- made for corrosive and non-corrosive service
- optional counter mechanisms include: horizontal re-set; 6 or 10" vertical dial; set-stop counter with or without ticket printer.

SMITH METER COMPANY

SUBSIDIARY OF A. O. SMITH CORPORATION

Factories at Los Angeles and Milwaukee

Sales offices at New York, Chicago, Houston, Los Angeles. Local stocks at convenient points. Local agents in all principal cities.

ICC Extends Effective Date Of New Rail Rate Order

Upon petition by defending railroad companies, it has been directed by the Interstate Commerce Commission that the order affecting reduced rail rates of liquefied petroleum gas, which by its terms is made effective on or before Aug. 30, upon not less than 30 days' notice, is modified to become effective on Sept. 30, upon like notice in the specific case referred to below:

On May 15 District 2 of the Interstate Commerce Commission ruled in a suit brought by Green's Fuel, Inc., Sarasota, Fla., and several other distributors in southern states, that rail freight rates of LP-Gas should be based upon an actual weight of the product, in amount 4.7 lbs. per gal., instead of upon the weight of gasoline, which is 6.6 lbs. per gal., and in which classification it has been placed in the past.

Whether or not the railroads will appeal the decision, has not been announced.

◆ ◆

New Order Permits Low Pressure Boilers to Be Made

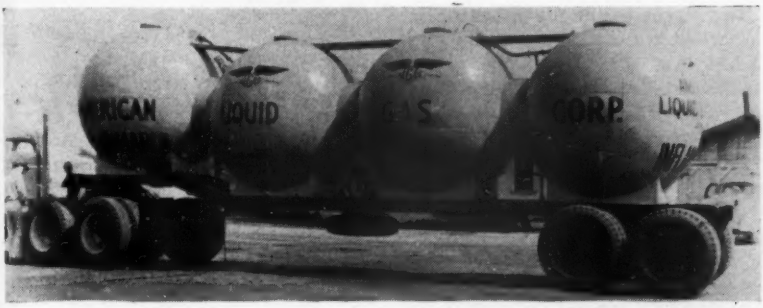
The War Production Board acted July 1 to provide for the manufacture of low pressure cast iron boilers for the remainder of the year.

The issuance of Limitation Order L-187, as amended, permits the manufacture of these boilers on a month to month basis at a rate not in excess of 100% of the productive rate of the corresponding month in 1940. This amended order was necessary because, effective as of July 1, the manufacture of such boilers was prohibited under the original order.

The filing of PD-704 is still required for military, war housing and hospital use of low pressure cast iron boilers.

ACT NOW . . . GET TRANSPORTS FOR NEXT FALL

Tank Trucks are being made available where there is a real need and no other source of transportation is obtainable. We make all types of transport tanks—cylindrical or spherical.



Superior Spheres Carry Larger Pay Loads

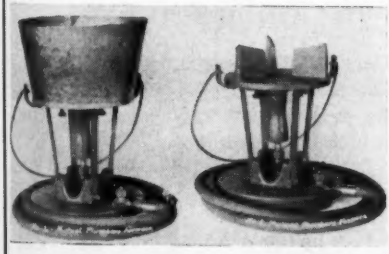
SUPERIOR TANK & CONSTRUCTION CO.

PHONES: AN 4157
NIGHT: Whittier 413-407

6155 SOUTH EASTERN AVE.
LOS ANGELES, CALIFORNIA

A phone call will bring a representative to discuss your needs.

Mutual's Streamline Portable Plumbers Furnace No. 2-A



This unit is well constructed, efficient and econmical. It may be used in the field or shop. It can be adapted to any type of L.P. Gas cylinder. The modern plumbers throughout the country are using this unit. Write for details.

Mutual Liquid Gas Co.

3805 W. Imperial Hwy. Inglewood, Calif.

For Safety and Economy

ETHYL MERCAPTAN

—Purified—

The ACCEPTED standard odorant for liquefied petroleum gases.

MALLINCKRODT CHEMICAL WORKS

ST. LOUIS NEW YORK

Oregon Taxes Butane For Highway Use

Users of diesel fuels, butane and motor fuels other than gasoline on Oregon highways, began paying the state tax direct to the state beginning July 1 when the new "use fuels tax" law went into effect.

The law, enacted by the 1943 legislature, changes the old law under which the state collected the tax from the vendor.

Trucks using fuels other than gasoline will be required to display windshield stickers.

The rate of the motor vehicle fuel tax is five cents per gallon and is to be reported and paid each month by the person, firm or corporation using the fuel. The tax is to be paid only on fuel used in the operation of vehicles on Oregon highways.

Dealers in motor vehicle fuels other than gasoline must obtain a license from the state. There is no fee for this license and application forms may be obtained by writing the secretary of state in Salem. Previously issued fuel dealer licenses of this type expired June 30, 1943.

◆ ◆

WPB Appoints Committee For Range Boilers, Tanks

The War Production Board announced on July 12 the formation of an industry advisory committee for the range boiler and tank industries.

The government presiding officer is Vincent T. Manas, and committee members are:

T. M. Bohen, Whitehead Metal Products Co., Inc., New York; M. H. Feldman, John Wood Manufacturing Co., Chicago; K. P. Fuhrmann, Wheeling Steel Corp., Portsmouth, Ohio; R. E. James, Rheem Manufacturing Co., Sparrows Point, Md.; Wesley Martin, A. O. Smith Corp., Milwaukee; E. Sedlachek, Scaife Co., Oakmont, Pa.; A. R. Hanson, L. O. Koven, Inc., Jersey City, N. J.; D. D. Smith, Porcelain Steels, Inc., Cleveland, Ohio; and O. S. Wessells, D. D. Wessells & Sons Co., Detroit.

◆ ◆

Paul Raigorodsky Resigns From Division of PAW

The resignation of Paul M. Raigorodsky, assistant director of the Natural Gas and Natural Gasoline Division, was accepted June 19 by Petroleum Administrator for War Harold L. Ickes. The resignation became effective July 1.

Mr. Raigorodsky will return to the oil business activities in which he was engaged before he joined the PAW in September, 1941.

◆ ◆

Restrictions Removed On Wall and Floor Furnaces

The War Production Board on July 13 eased restrictions on the manufacture of gas heaters, according to dispatches from Washington.

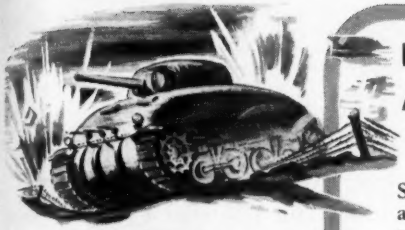
Henceforth, all wall and floor furnaces may be produced in unlimited quantities "for housing as well as for the armed services" except for limitations provided in L-23-c.

The new order is No. L-173.

◆ ◆

ICC Changes Density Rule For All-Year Loading

The Interstate Commerce Commission has amended its regulations—effective on and after June 30, 1943—Note 3, Par. (q)(1) of Section 303. The Increased Loading Density Table, previously effective for the months of November to March inclusive, is now effective all year.



HUMPHREY PRODUCTS Are Taking Strange Shapes . . . Today!

Strange indeed are the shapes, sizes and styles of products rolling from production lines which formerly produced Humphrey Radiantfires, Unit Heaters, Circulators and other quality gas appliances. Parts for tanks, guns, aircraft, ships — these now rightfully take first claim on the production facilities and engineering skills of our organization.

Although Humphrey Products are now available only in limited quantities, we pledge our best efforts toward serving you to the limit of our ability under existing conditions.

A HUMPHREY PRODUCT

REMEMBER THIS MARK OF QUALITY

GENERAL GAS LIGHT CO., Kalamazoo, Mich.

Order These Famous L. P. Gas Products From Us . . . .

RESCO LP GAS

The BASTIAN-BLESSING Co.

THE DAYTON-DOWD CO.

Hackney
BUTANE-PROPANE CYLINDERS

L. C. RONEY INC.

The IMPERIAL BRASS MFG. CO.

GAS EQUIPMENT CO., INC.
2620 South Ervay Street, Dallas, Texas

GAS EQUIPMENT SUPPLY CO.

WAR HOUSING

LPG HEATERS

LPG Dealers find real profit in BRILLIANT FIRE sales because the product is time-tested, trustworthy. Geared for economy operation and negligible servicing. These popular heat-makers are offered in a variety of styles for every home need.

Write for Catalog

Brilliant Fire GAS HEATERS

THE OHIO FOUNDRY & MANUFACTURING CO.
QUALITY HEATING EQUIPMENT SINCE 1846
STEUBENVILLE, OHIO

Output of Light Products Continues To Increase

Daily production of natural gasoline and allied products increased in April to 10,139,000 gal., compared with 9,968,000 for March and 8,760,000 for April, 1942, the Bureau of Mines has reported.

East Texas and California showed pronounced increases over March, while Illinois, the Texas Panhandle and the Louisiana Gulf Coast registered smaller gains. For the first four months, the Texas Gulf Coast and East Texas districts increased 13% and 10%, respectively, over the totals for the same period in 1942.

Natural gasoline showed a larger relative increase in production than the other light products; in fact, the daily average output of cycle products declined.

Refinery demands for cycle products and liquefied petroleum gas increased but because of seasonal influences the demand for LP-Gas and liquefied refinery gases as fuel declined.

◆ ◆

WPB-547 Replaces PD-IX For Inventory Replacements

Form PD-1X—used by distributors in obtaining priority assistance for replacing inventories—has been superseded by a new, simplified application titled WPB-547, the Wholesale and Retail Trade Division of the War Production Board announced July 9.

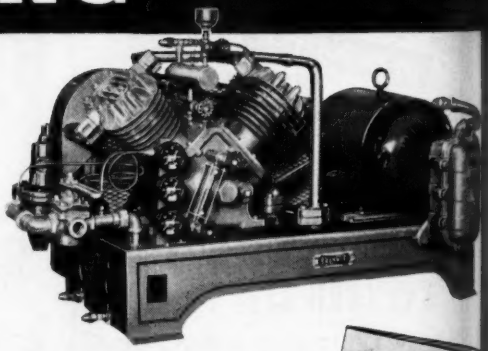
Intended primarily to reduce the amount of paper work involved in filling out the old form, the new application has been greatly simplified.

The new form, copies of which are now available in WPB field offices, can be used immediately if desired. PD-1X applications will be accepted for processing until Aug. 1; after that, only WPB-547 will be valid.

SPEED UP TANK CAR UNLOADING

BRUNNER LP-GAS UNIT Reduces Gas Loss . . . Pays Dividends Daily

Here's a unit which not only recovers 500 to 1000 additional pounds of gas per tank car unloaded, but also speeds up car unloading. In addition, the Brunner LP-Gas Unit cuts bottle filling time by as much as 25%. Add up these savings—see how Brunner Units quickly pay for themselves. Brunner Manufacturing Co., Utica, N. Y., U. S. A.

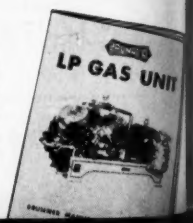


MY E NAVY

BRUNNER

Write for FREE Booklet

The new booklet describes the Brunner LP-Gas Unit, contains illustrations, diagrams and other pertinent facts on handling liquid petroleum gas.



A Name That Stands for Quality

McNAMAR

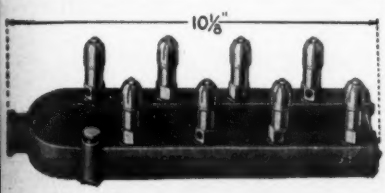
Tanks for most all L.P.G. requirements

•

McNAMAR
Boiler and Tank Co.

Tulsa, Okla. Salem, Ill.

10⅛"



No. C. L.-80 Barber Burner

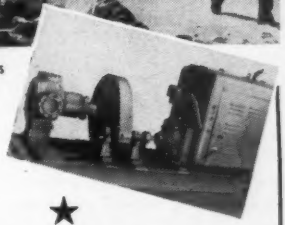
BARBER APPLIANCE BURNERS

Barber is now working on war production, but wherever possible and permitted, we are still supplying the regular trade. Barber Units, in many standard or special shapes and sizes, are always correctly designed to fit the individual appliance, and give complete combustion on Butane-Propane or any other gas. Now that efficiency is more vital than ever—submit your burner problems to us. Complete catalog on request.

THE BARBER GAS BURNER CO.
3704 Superior Ave. Cleveland, Ohio

"THE MARINES HAVE LANDED!"
A Viking Pump May Be Right There Too!

Official U. S. MARINE CORPS Photo



★

Fuel oil for mechanized equipment and for Diesel generated Electricity must be immediately available to insure the success of operations after the U. S. Marines have landed.

The Viking portable fuel transfer unit, pictured here, is used for delivering vital petroleum products at beach-heads and temporary bases. The unit is complete with heavy duty Viking Rotary Pump, back-geared to an engine with individual clutch, all mounted on a rugged, portable steel base.

Because Viking is engaged in important War-time construction for the U. S. Marine Corps, many valued civilian customers find it impossible to get Viking Rotary Pumps at all, or get them only after considerable delay. Thanks for your patriotism and your patience. We all should consider it a privilege to help our fighting Marines batter Togo, Adolph and Benito into oblivion.

★

VIKING PUMP COMPANY
CEDAR FALLS, IOWA

ODT Provides Reliefs For Truck Owners

The Office of Defense Transportation has amended its tire inspection requirements for commercial motor vehicles to allow a maximum period of 5000 miles or six months, whichever occurs first, between inspections. Previously commercial vehicles had to have tire inspections made every 5000 miles or every 60 days, whichever occurred first. The extension is contained in Amendment 6 to General Order ODT No. 21.

Commercial motor vehicle operators were relieved June 10 from the provisions of the Office of Defense Transportation's General Order 21, which required them to sign receipts for gasoline, parts, tires and tubes and to endorse the receipts with their Certificate of War Necessity Number. Commercial motor vehicles include trucks, buses, and taxicabs.

◆ ◆

Truck Pumps Excluded From Order L-246

Order L-246 was amended on June 18 to exclude from the scope of the original order pumps used in the operation of passenger automobiles, trucks, truck trailers, passenger carriers, off-the-highway motor vehicles and motorized fire equipment (as defined in L-158), or in the operation of any internal combustion engine.

Complete text of amended Order L-246 may be obtained from the WPB.

◆ ◆

Order No. 12 Replaces Old Order M-68-c

Order M-68-c, which governs the petroleum industry, and under which the liquefied petroleum gas industry was classified for a while, has been replaced by Petroleum Administrative Order No. 12. This deals with the use of materials and equipment in the marketing branch of the petroleum industry, was issued June 24, and became effective July 1.

Under Order No. 12 equipment may be installed to contain, distribute or dispense LP-Gas in the marketing branch of the petroleum industry, but in no way supersedes or rescinds the provisions of General Limitation Order No. L-86, which applies to the LP-Gas industry as a whole and specifically.

◆ ◆

Heat Exchangers Brought Under Stricter Control

Additional types of heat exchangers were brought under strict control by the War Production Board on July 9 in an action designed to channel critical types and sizes into essential war industry and military use.

A revised Order L-172 broadens the coverage to include additional types and sizes but makes a distinction between the most critical types and others.

Today's action also removes from the terms of L-172 heat exchangers being produced by a manufacturer as an integral part of other machinery and provides a simple procedure for rejection of orders which cannot be accepted by the manufacturer because of the delivery dates required.

◆ ◆

Reznor's Dave Webster Promoted to Captaincy

David R. Webster, sales manager of the Reznor Manufacturing Co., Mercer, Pa., has been made a captain in the quartermaster corps, according to recent word from the company.

Mr. Webster has been stationed in Teheran, Iran, for several months. During that time he contracted a serious illness, but has now fully recovered.

HIGH PRESSURE STORAGE TANKS

designed exclusively for

L P G SERVICE

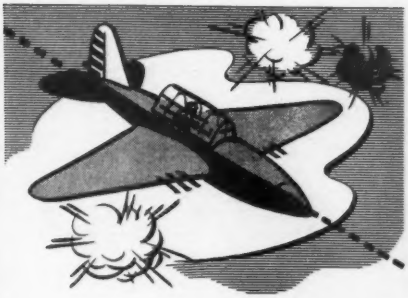
AMERICAN
PIPE & STEEL CORPORATION
Manufacturers and Distributors
Alhambra, California

L.C. RONEY, INC.

meets the demands of the nation. Our plant has gone to war for the duration — but when peace comes, L. C. RONEY products for the LP-Gas industry will meet the demands of dealers everywhere. In the meantime—our stock of LP-Gas equipment is still complete.

L.C. RONEY INC.
1740-48 W. 59TH ST. • LOS ANGELES, CALIF.

SINCLAIR
LP-GASES *are*



ON THE BEAM ON ALL FRONTS

On every scene of action—on war front and home front—on land and sea and in the air — in industrial plants and defense workers' homes—Sinclair Liquid Gases are rendering a vital service. They are essential elements in the manufacture of High-Octane Aviation Gasoline, synthetic rubber, chemicals and plastics—for heat and power and fuel in countless shipyards, factories and housing projects.

Sinclair Butanes and Propane are contributing to the successful prosecution of our Victory program. And Sinclair distributors are playing an important part in this important wartime task.

Protect YOUR *fuel requirements by contracting with*

SINCLAIR PRAIRIE OIL COMPANY

Liquefied Petroleum Gas Division
Sinclair Bldg. Tulsa, Okla.

SPRAGUE METERS

for

PROPANE - BUTANE SERVICE

•

Write for Particulars

SPRAGUE METER COMPANY

Bridgeport, Conn.
Los Angeles, Calif.
San Francisco, Calif.

Victory Is Everyone's Job

ELECTRIC & CARBURETOR ENGINEERING CO.

"Pioneers of the Butane Industry"

For the duration of the war we are engaged 100% in manufacturing AIRCRAFT PRECISION PRODUCTS. After the war we will again present our regular lines and solicit your patronage.

ELECTRIC & CARBURETOR ENGINEERING CO.
2323 E. 8th St. Los Angeles

HOT Water
UNITED STATES
Automatic Water Heaters

Approved by A.G.A. for Liquefied Petroleum Gas

United States Heater Co.
COMPTON, CALIFORNIA

CLASSIFIED

Classified advertising is set in 6-point type, without border or display, at the rate of 10 cents per word per insertion; minimum charge per insertion $2. Box numbers for replies count as 5 words. Count as a word each one letter word and each group of figures. Classified advertising is only accepted when payment accompanies order. Copy and payment must reach publisher's office prior to 10th of month preceding publication.

HELP WANTED

EXPERIENCED BOTTLED GAS PLANT manager. Duties consist of unloading tank cars, filling cylinders, maintaining all equipment, etc. Complete charge. Permanent position and real opportunity for qualified man. Must be draft exempt. Submit complete qualifications. Box 130, BUTANE-PROPANE *News*.

EQUIPMENT WANTED

WANTED USED PROPANE BULK STATION large tanks and small town bulk tank or tanks and fittings. Also used propane cylinders, any size. Box 140, BUTANE-PROPANE *News*.

Can Appeal Six New Orders Through WPB Field Offices

Appendix A of Prioities Regulation No. 16 was further amended April 22 to remove six orders from the list of those which may be appealed only through WPB Field Offices, and to add six, not previously included, to that list.

Changes, effective May 1, are as follows:

Removed from Appendix A

L-22 (furnaces)
L-23 (domestic cooking appliances)
L-23-a " " "
L-23-b " " "
L-59 (metal plastering bases)
L-59-a " " "

Added to Appendix A

L-13-a (metal office furniture)
L-22-a (furnaces)
L-23-c (domestic cooking appliances)
L-182 (commercial cooking equipment)
L-248 (commercial dish washers)
L-277 (electrical wiring devices)

(HERE'S PROOF) That REZNOR Unit Heaters Move More Air

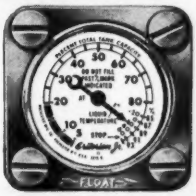
DRYING AIRPLANE GAS TANKS IN LESS TIME

ANOTHER PROBLEM SOLVED • • • • • •

★ You would hardly think to look on a steel fabricator's production line for proof that Reznor Gas Fired Suspended Unit Heaters move more air. But, because of this ability to move air in abundance, Reznor Heaters are used for manufacturing operations as well as for space heating. For example, Reznor Units save one manufacturer 90% of the production time formerly used for drying airplane gasoline tanks. But that's not all. Woodworking manufacturers, container manufacturers, and a host of others use Reznor Heaters directly as part of their war production equipment. Hence, for more warm air over wider areas, depend upon Reznor Units. Write for literature.

REZNOR MANUFACTURING CO., 304 James St., Mercer, Penna.

GAS HEATERS EXCLUSIVELY SINCE 1888



LONG WILL THEY SERVE!

. . . that's because Rochester Gauges are carefully designed and durably built to serve with greater accuracy and dependability throughout the present emergency.

ROCHESTER MFG. CO., INC.
17 Rockwood St., Rochester, N. Y.

ROCHESTER
Criterion GAUGES

"FOR HIGH ACHIEVEMENT IN THE PRODUCTION OF WAR EQUIPMENT"

ROBERTSHAW
THERMOSTAT COMPANY
YOUNGWOOD, PENNSYLVANIA

ADVERTISERS

American Liquid Gas Corp. 50
American Pipe and Steel Corp. 69
American Stove Co. 10
Anchor Petroleum Co. ..... Front Cover
Arkansas Foundry Co. 56

Barber Gas Burner Co., The 67
Bastian-Blessing Co., The 36, 37
Blickman, Inc., S. ..... —
Brunner Manufacturing Co. 66
Bryant Heater Co., The 53

Caloric Gas Stove Works 48
Carter Oil Co., The 59
Commercial Shearing & Stamping Co., The ..... —

Dallas Tank & Welding Co., Inc. 43
Dearborn Stove Co. ..... —
Downingtown Iron Works ..... —

Electric & Carburetor Engrg. Co. 70
Ensign Carburetor Co., Ltd. 54

Fisher Governor Co. 6, 7

Gas Equipment Co., Inc. 65
Gas Equipment Supply Co. 65
General Gas Light Co. 65
Grand Ranges, Division of Cleveland Co-Operative Stove Co. 32, 33

HANDBOOK BUTANE-PROPANE GASES 39

Lindemann, A. J., & Hoverson Co. 47

Mallinckrodt Chemical Works 63
McNamar Boiler & Tank Co. 67
Merco Nordstrom Valve Co. ..... —
Mutual Liquid Gas Co. 63

Neptune Meter Co. ..... —

Ohio Foundry & Manufacturing Co., The 65

Parkhill-Wade 59
Payne Furnace & Supply Co., Inc. 41
Peerless Manufacturing Corp. ..... —
Pittsburgh Equitable Meter Co. ..... —
Pressed Steel Tank Co. ..... Second Cover

Radiator Specialty Co. 61
Ransome Co. 45
Reznor Manufacturing Co. 71
Robertshaw Thermostat Co. 71
Rochester Manufacturing Co., Inc. 71
Roney, Inc., L. C. 69
Roper Corp., Geo. D. 1

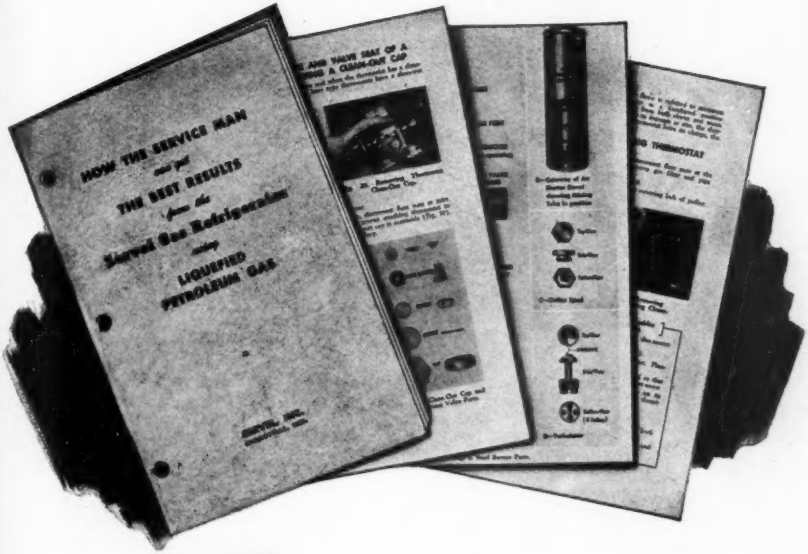
Scaife Co. ..... Fourth Cover
Servel, Inc. (Servel Electrolux) ..... Third Cover
Sinclair Prairie Oil Co. 69
Smith Meter Co. 62
Smith Precision Products Co. 61
Sprague Meter Co. 70
Standard Oil Co. of California ..... —
Superior Tank & Construction Co. 63
Superior Valve & Fittings Co. 59

Tappan Stove Co. ..... —
Thomas Truck and Caster Co. 58
Tokheim Oil & Tank Pump Co. ..... —

United States Heater Co. 70

Viking Pump Co. 67

Warren Petroleum Corp. 3
WBP Gas Flow Calculator ..... —
Williams-Wallace Co. 61



NOW- A Simplified Service Manual for L-P Gas Refrigerators

SERVICING a Servel L-P Gas Refrigerator is simply a matter of "know how." And Servel's new simplified service manual gives you this "know how"... tells you how to keep L-P Gas Refrigerators at peak efficiency.

This pocket-size booklet is packed with facts and illustrations. Here are some of the important features covered: How to adjust the burner flame . . . directions for taking apart and reassembling the burner . . . descriptions of the flue-cleaning process . . . how to regulate and make repairs on the thermostat ...the removal and replacement of the freezing unit...and many other helpful service hints.

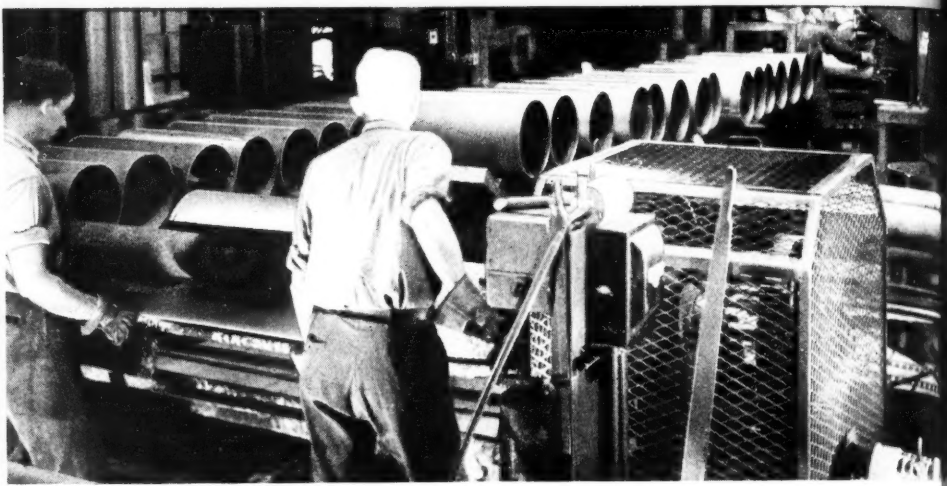
Send today for your free copy of the new manual, "How the Service Man Can Get the Best Results From the Servel Gas Refrigerator Using Liquefied Petroleum Gas." Just write to Servel, Inc., Evansville, Ind.

SERVEL, Inc.

PEACETIME MAKER OF THE SERVEL GAS REFRIGERATOR

SCAIFE

QUALITY CYLINDER CONSTRUCTION



MEANS

"KNOWN STRENGTH

The method developed and perfected by Scaife for construction of LP-Gas cylinders, has proved its value in service. The shell is smoothly formed to shape from a steel sheet of known strength and uniform thickness. Ellipsoidal shaped heads are inserted and welded into place, providing zones of extra strength where right means longer life.

Specify Scaife Cylinders for long life and dependable service.

SCAIFE COMPANY

OAKMONT (Pittsburgh District) PENNSYLVANIA